

DCR-TRV320/TRV320E/TRV320P/TRV420E/ TRV520/TRV520E/TRV520P/TRV525/ TRV620E/TRV720/TRV720E RMT-814

SERVICE MANUAL

Self Diagnosis
Supported model

Ver 1.0 2000.03

Digital Handycam

InfoLITHIUM



MEMORY STICK™

B700 MECHANISM



Photo: DCR-TRV320

US Model
DCR-TRV320/TRV520/TRV525/TRV720

Canadian Model
DCR-TRV320/TRV525/TRV720

AEP Model
DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

UK Model
DCR-TRV320E/TRV620E

East European Model
North European Model

Russian Model
DCR-TRV320E

E Model
DCR-TRV320/TRV320E/TRV320P/
TRV520/TRV520E/TRV520P/TRV720/TRV720E

Hong Kong Model
DCR-TRV320/TRV320E/
TRV520/TRV520E/TRV720E

Korea Model
DCR-TRV320/TRV520/TRV720

Argentina Model
DCR-TRV520P

Australian Model
DCR-TRV320E/TRV520E

Chinese Model
DCR-TRV320E/TRV420E/TRV520E/TRV720E

Tourist Model
DCR-TRV520/TRV520E

NTSC MODEL : DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL MODEL : DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

When the machine needs to be repaired,
please refer to page 9 to discriminate
the type of LCD.

For MECHANISM ADJUSTMENT, refer to
the "8mm Video MECHANICAL
ADJUSTMENT MANUAL VII" (9-973-801-11).

SPECIFICATIONS

Video camera recorder

System

Video recording system

2 rotary heads
Helical scanning system
Audio recording system
Rotary heads, PCM system
Quantization: 12 bits (Fs 32 kHz,
stereo 1, stereo 2), 16 bits
(Fs 48 kHz, stereo)

Video signal

DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720 :
NTSC color, EIA standards
DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E :

PAL colour, CCIR standards

Recommended cassette

Hi8/Digital8 video cassette
**Recording/Playback time (using
120 min. Hi8 video cassette)**

SP mode: 1 hour

LP mode: 1 hour and 30 minutes

**Fastforward/rewind time (using
120 min. Hi8 video cassette)**

Approx. 5 min.

Viewfinder

Electric Viewfinder (monochrome)

Image device

1/4 type CCD (Change Coupled

Device)

DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720 :

Approx. 460,000 pixels

(Effective: Approx. 290,000 pixels)

DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E :

Approx. 800,000 pixels

(Effective: Approx. 400,000 pixels)

Lens

Combined power zoom lens

Filter diameter 37 mm (1 1/2 in.)

25× (Optical)

DCR-TRV320/TRV320E: E, AUS, HK,

CN/TRV320P/TRV420E: CN/TRV520/
TRV520E: E, AUS, HK, CN, JE/
TRV520P/TRV525/TRV720/TRV720E:

E, HK, CN :

450× (Digital)

DCR-TRV320E: AEP, UK, EE, NE, RU/
TRV520E: AEP/TRV620E/TRV720E:

AEP :

100× (Digital)

DCR-TRV420E: AEP :

125× (Digital)

Focal length

3.7 - 92.5 mm (5/32 - 3 3/4 in.)

When converted to a 35 mm still camera

48 - 1200 mm (1 15/16 - 47 1/4 in.)

Colour temperature

Auto

Minimum illumination

DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720 :

1 lux (F 1.6)

DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E :

3 lux (F 1.6)

0 lux (in the NightShot mode)*

* Objects unable to be seen due to the

dark can be shot with infrared

lighting.

Input/output

connectors

DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720 :

S video input/output

4-pin mini DIN

Luminance signal: 1 Vp-p,

75 ohms, unbalanced

Chrominance signal: 0.286 Vp-p,

75 ohms, unbalanced

Audio/Video input/output

AV MINIJACK, 1 Vp-p, 75 ohms,

unbalanced, sync negative

327 mV, (at output impedance more than

47 kilohms)

Output impedance with less than 2.2

kilohms/Stereo minijack (ø 3.5 mm)

Input impedance more than 47 kilohms

DCR-TRV320E: E, AUS, HK, CN/
TRV420E: CN/TRV520E: E, AUS, HK,

CN, JE/TRV620E/TRV720E :

S video input/output

4-pin mini DIN

Luminance signal: 1 Vp-p,

75 ohms, unbalanced

Chrominance signal: 0.3 Vp-p,

75 ohms, unbalanced

Audio/Video output

AV MINIJACK, 1 Vp-p, 75 ohms,

unbalanced, sync negative

327 mV, (at output impedance more than

47 kilohms)

Output impedance with less than 2.2

kilohms/Stereo minijack (ø 3.5 mm)

DCR-TRV320E: AEP, UK, EE, NE, RU/
TRV420E: AEP/TRV520E: AEP :

— Continued on next page —

Digital 8 DIGITAL VIDEO CASSETTE RECORDER

SONY®

S video output

4-pin mini DIN
Luminance signal: 1 Vp-p,
75 ohms, unbalanced
Chrominance signal: 0.3 Vp-p,
75 ohms, unbalanced

Audio/Video output

AV MINIJACK, 1 Vp-p, 75 ohms,
unbalanced, sync negative
327 mV, (at output impedance more than
47 kilohms)

Output impedance with less than 2.2
kilohms/Stereo minijack (ø 3.5 mm)
DCR-TRV320/TRV320E: E, AUS, HK,
CN/TRV320P/TRV420E: CN/TRV520/
TRV520E: E, AUS, HK, CN, JE/
TRV520P/TRV525/TRV620E/TRV720/
TRV720E :

DV input/output

4-pin connector
DCR-TRV320E: AEP, UK, EE, NE, RU/
TRV420E: AEP/TRV520E: AEP :

DV output

4-pin connector

Headphone jack

Stereo minijack (ø 3.5 mm)

LANC control jack

Stereo mini-minijack (ø 2.5 mm)
Transfer rate: Max 115.2 Kbps
RS-232C based

MIC jack

Stereo minijack (ø 3.5 mm)

LCD screen

Picture

DCR-TRV320/TRV320E/TRV320P :

2.5 type
50.3 × 37.4 mm (2 × 1 1/2 in.)

DCR-TRV420E/TRV525 :

3 type
61.0 × 43.8 mm (2 1/2 × 1 3/4 in.)
DCR-TRV520/TRV520E/TRV520P/
TRV620E :

3.5 type
72.2 × 50.4 mm (2 7/8 × 2 in.)
DCR-TRV720/TRV720E :

4 type
80.6 × 60.5 mm (3 1/4 × 2 1/2 in.)

Total dot number

DCR-TRV320/TRV320E: E, AUS, HK,
CN/TRV320P :
61,600 (280 × 220)
DCR-TRV320E: AEP, UK, EE, NE, RU/
TRV420E/TRV520/TRV520E/TRV520P/
TRV525/TRV620E/TRV720/TRV720E :
123,200 (560 × 220)

General

power requirements

7.2 V (battery pack)
8.4 V (AC power adaptor)

**Average power consumption
(When using the battery pack)**

During camera recording using
LCD
DCR-TRV320E: AEP, UK, EE, NE, RU :
3.5 W
DCR-TRV320/TRV320E: E, AUS, HK,
CN/TRV320P :
3.7 W
DCR-TRV720/TRV720E :
4.4 W
DCR-TRV420E/TRV520/TRV520E/
TRV520P/TRV525/TRV620E :
4.5 W
Viewfinder
DCR-TRV320E: AEP, UK, EE, NE, RU :
2.8 W
DCR-TRV420E: AEP/TRV520E: AEP/
TRV525/TRV620E/TRV720/TRV720E :
3.1 W
DCR-TRV320/TRV320E: E, AUS, HK,
CN/TRV320P :
3.3 W
DCR-TRV420E: CN/TRV520/TRV520E:
E, AUS, HK, CN, JE/TRV520P :
3.6 W

Operating temperature
0 °C to 40 °C (32 °F to 104 °F)
Storage temperature
–20 °C to +60 °C (–4 °F to +140 °F)
Dimensions (approx.)
DCR-TRV320/TRV320E/TRV320P :
107 × 106 × 233 mm
(4 1/4 × 4 1/4 × 9 1/4 in.) (w/h/d)
DCR-TRV420E/TRV520/TRV520E/
TRV520P/TRV525/TRV620E :
111 × 106 × 207 mm
(4 1/2 × 4 1/4 × 8 1/4 in.) (w/h/d)
DCR-TRV720/TRV720E :
112 × 121 × 218 mm
(4 1/2 × 4 7/8 × 8 5/8 in.) (w/h/d)

Mass (approx.)

DCR-TRV320/TRV320E/TRV320P :
950 g (2 lb 1 oz)
DCR-TRV420E/TRV525 :
980 g (2 lb 2 oz)
DCR-TRV520/TRV520E/TRV520P/
TRV620E :
990 g (2 lb 2 oz)
DCR-TRV720/TRV720E :
1.1 kg (2 lb 6 oz)
excluding the battery pack, lithium
battery, cassette and shoulder strap
DCR-TRV320/TRV320E/TRV320P/
TRV420E/TRV520/TRV520E/TRV520P/
TRV525/TRV620E :
1.1 kg (2 lb 7 oz)
DCR-TRV720/TRV720E :
1.2 kg (2 lb 10 oz)
DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720 :
including the battery pack NP-F330,
lithium battery CR2025, 120 min. Hi8
cassette, and shoulder strap
DCR-TRV320E/TRV420E: CN/
TRV520E/TRV620E/TRV720E :
including the battery pack NP-F330,
lithium battery CR2025, 90 min. Hi8
cassette, and shoulder strap
DCR-TRV420E: AEP :
including the battery pack NP-F550,
lithium battery CR2025, 90 min. Hi8
cassette, and shoulder strap

AC power adaptor

Power requirements

100 - 240 V AC, 50/60 Hz

Power consumption

23 W

Output voltage

DC OUT: 8.4 V, 1.5 A in the
operating mode

Operating temperature

0 °C to 40 °C (32 °F to 104 °F)

Storage temperature

–20 °C to +60 °C (–4 °F to +140 °F)

Dimensions (approx.)

125 × 39 × 62 mm
(5 × 1 9/16 × 2 1/2 in.) (w/h/d)
excluding projecting parts

Mass (approx.)

280 g (9.8 oz)
excluding power cord

Battery Pack

Output voltage

DC 7.2 V

Capacity

DCR-TRV320/TRV320E/TRV320P/
TRV420E: CN/TRV520/TRV520E/
TRV520P/TRV525/TRV620E/TRV720/
TRV720E :
NP-F330: 5.0 Wh
DCR-TRV420E: AEP :
NP-F550: 10.8 Wh

Dimensions (approx.)

38 × 21 × 71 mm
(1 9/16 × 1 3/16 × 2 7/8 in.) (w/h/d)

Mass (approx.)

95 g (3.4 oz)

Type

Lithium ion

“Memory Stick”

Memory

Flash memory
4 MB; MSA-4A

Operating voltage

2.7 - 3.6 V

Power consumption

Approx. 45 mA in the operating mode

Approx. 130 µA in the standby mode

Dimensions (approx.)

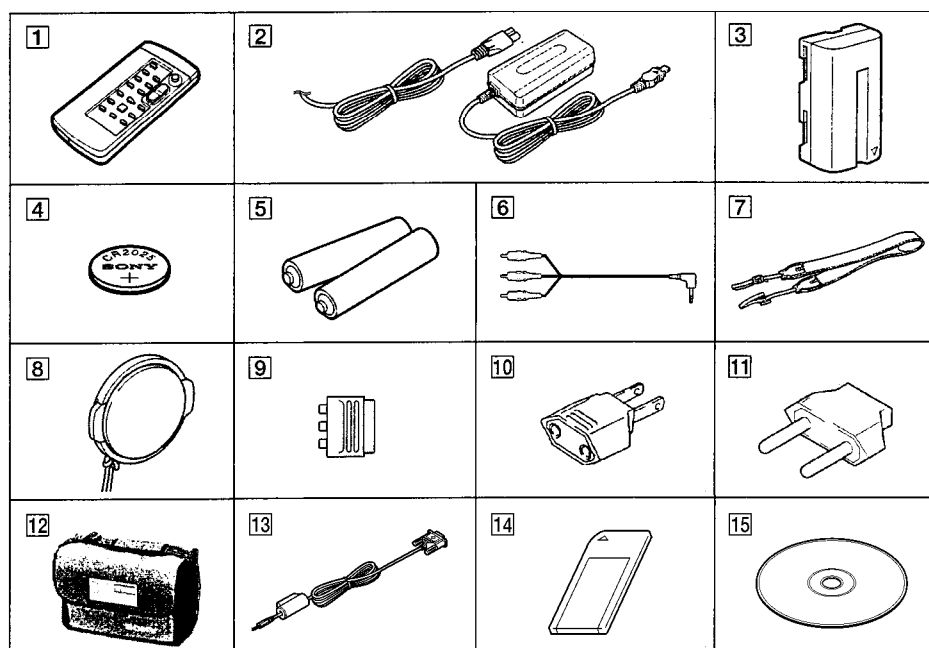
50 × 2.8 × 21.5 mm
(2 × 1/8 × 7/8 in.) (w/h/d)

Mass (approx.)

4 g (0.14 oz)

Design and specifications are subject to
change without notice.

Supplied accessories



- 1 Wireless Remote Commander (1)**
- 2 AC-L10A/L10B/L10C AC Power adaptor (1),
Mains lead (1)**
- 3 NP-F330 battery pack (1)**
DCR-TRV320/TRV320E/TRV320P/TRV420E: CN/TRV520E/
TRV520P/TRV525/TRV620E/TRV720/TRV720E
NP-F550 battery pack (1)
DCR-TRV420E: AEP
- 4 CR2025 lithium battery (1)**
The lithium battery is already installed in your camcorder.
- 5 R6 (Size AA) battery for Remote Commander (2)**
- 6 A/V connecting cable (1)**
- 7 Shoulder strap (1)**

- 8 Lens cap (1)**
- 9 21-pin adaptor (1)**
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E:
AEP/TRV620E/TRV720E: AEP
- 10 2-pin conversion adaptor (1)**
DCR-TRV320: E, HK/TRV320E: E, HK/TRV320P/TRV520: E,
HK/TRV520E: E, HK/TRV520P: E/TRV720: E/TRV720E: E, HK
- 11 2-pin conversion adaptor (1)**
DCR-TRV520: JE/TRV520E: JE
- 12 Carrying bag (1)**
DCR-TRV320P/TRV520P
- 13 PC serial cable (1)**
- 14 "Memory Stick" (1)**
- 15 Application software: PictureGear 4.1 Lite (CD ROM) (1)**

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
 - Keep the temperature of the soldering iron around 270 °C during repairing.
 - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
 - Be careful not to apply force on the conductor when soldering or unsoldering.

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* The optical axis frame is shown on page 321.
The color reproduction frame is shown on page 322.
The parts reference sheet is shown on page 323 .

SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied (8.4 V) to the battery terminal using the service power cord (J-6082-223-A), the power is shut off so that the unit cannot operate.

The following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.

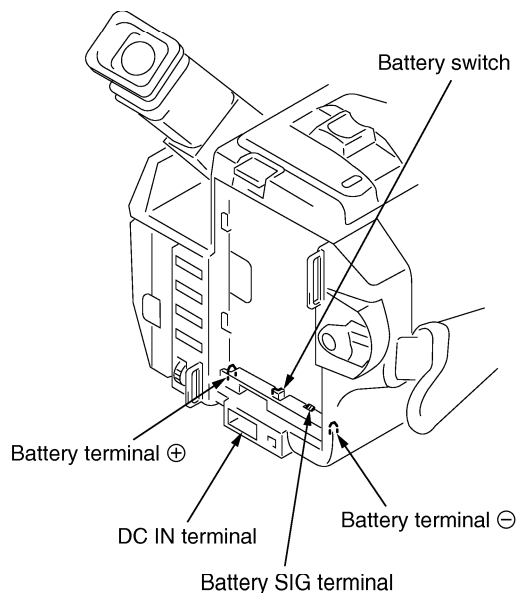
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the remote commander switch to the "ADJ" side.

Method 2.

Press the battery switch of the battery terminal using adhesive tape, etc.

Method 3.

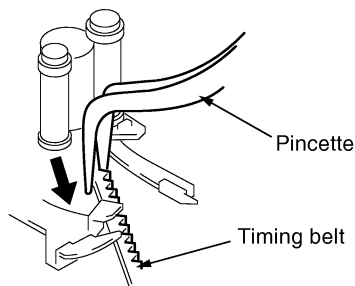
Use the DC IN terminal. (Use the AC power adaptor.)



2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

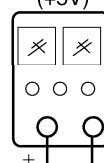
- ① Refer to 2-4 to remove the front panel assembly.
- ② Refer to 2-5 to remove the cabinet (L) assembly.
- ③ Refer to 2-6 to remove the cabinet (R) assembly.
- ④ Refer to 2-15 to remove the battery panel assembly.
- ⑤ Disconnect CN4401 of VC-235 board.
- ⑥ Add +5 V from the DC POWER SUPPLY and unload with a pressing the cassette lid.

- ⑦ Pull the timing belt in the direction of the arrow with a pincette while pressing the cassette lid (be careful not to damage it) to adjust the bending of a tape.

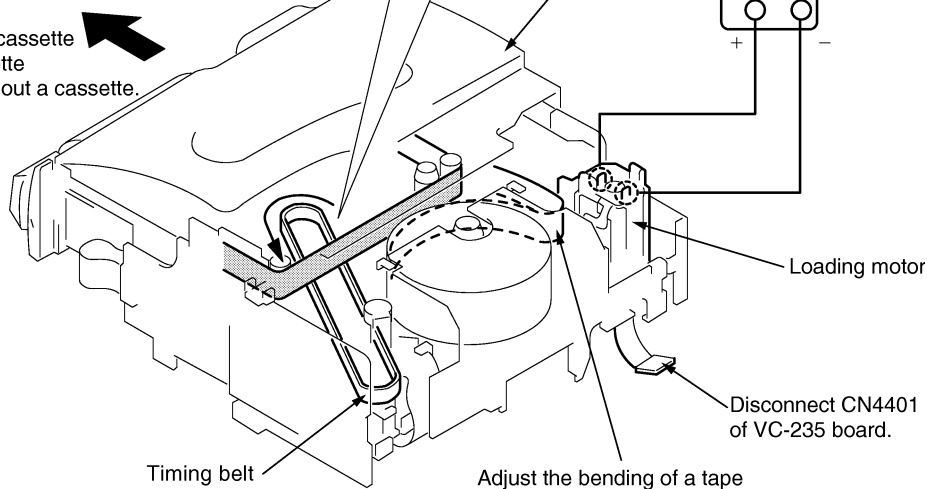


Press the cassette lid to rise the cassette compartment

[DC power supply] (+5V)



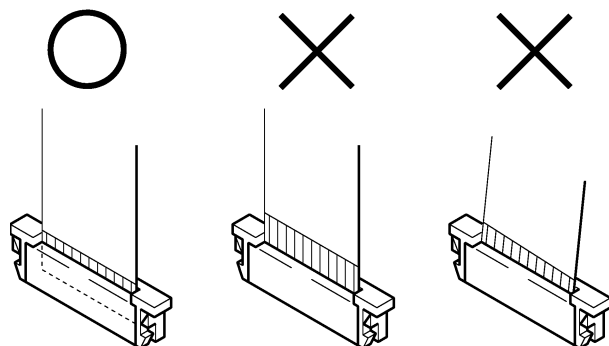
- ⑧ Let go your hold the cassette lid and rise the cassette compartment to take out a cassette.



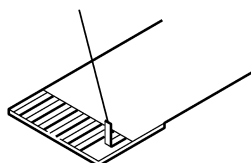
3. NOTE FOR REPAIR

Make sure that the flat cable and flexible board are not cracked or bent at the terminal.

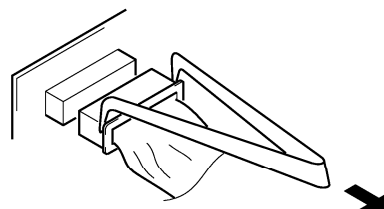
Do not insert the cable insufficiently nor crookedly.



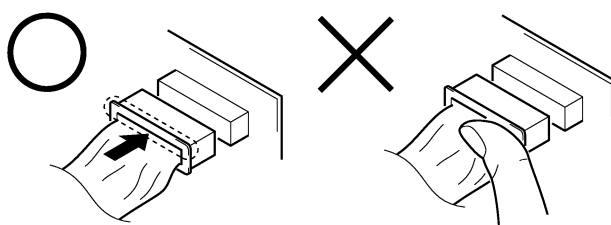
Cut and remove the part of gilt which comes off at the point.
(Be careful or some pieces of gilt may be left inside)



When remove a connector, don't pull at wire of connector.
It is possible that a wire is snapped.



When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.



4. LCD TYPE CHECK

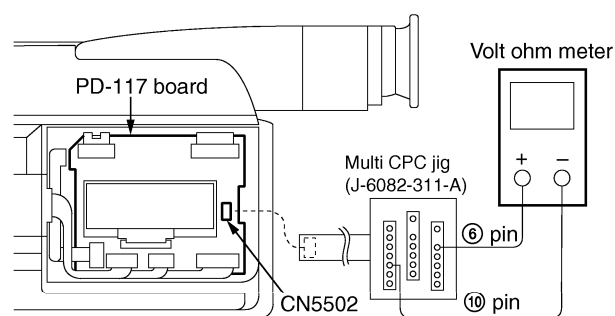
By measuring the resistor value between Pin ⑥ of CN5502 and Pin ⑩ of CN5502 on PD-117/118 board, the type of LCD can be discriminated.

Note: About PD-117/118 board and LCD module, discriminate LCD type on the machine, and replace the same type.

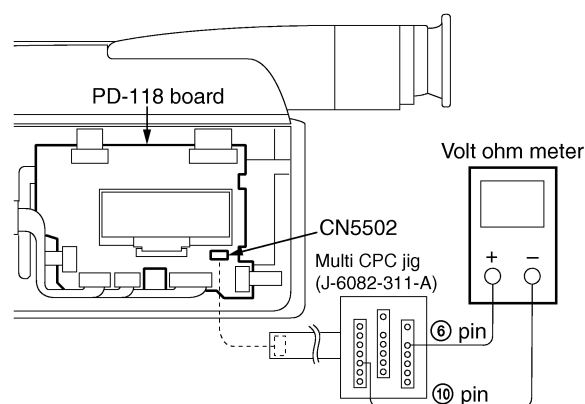
PD-117/118 board CN5502

Resistor value	LCD type	PD board
1 kΩ	2.5 LCD TYPE S 61 k	PD-117 (2.5 LCD TYPE S 61 k)
1.5 kΩ	2.5 LCD TYPE C 61 k	PD-117 (2.5 LCD TYPE C 61 k)
2.2 kΩ	2.5 LCD TYPE S 123 k	PD-117 (2.5 LCD TYPE S 123 k)
4.7 kΩ	3 LCD TYPE S	PD-118 (3 LCD TYPE S)
5.6 kΩ	3.5 LCD TYPE S	PD-118 (3.5 LCD TYPE S)
6.8 kΩ	3.5 LCD TYPE C	PD-118 (3.5 LCD TYPE C)
8.2 kΩ	4 LCD TYPE S	PD-118 (4 LCD TYPE S)
10 kΩ	4 LCD TYPE C	PD-118 (4 LCD TYPE C)

DCR-TRV320/TRV320E/TRV320P



DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E



SELF-DIAGNOSIS FUNCTION

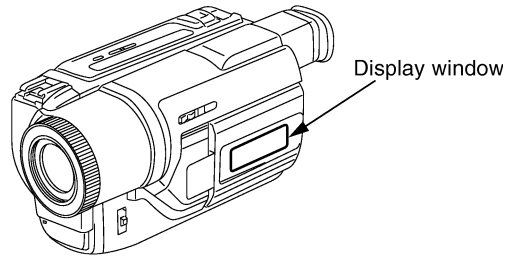
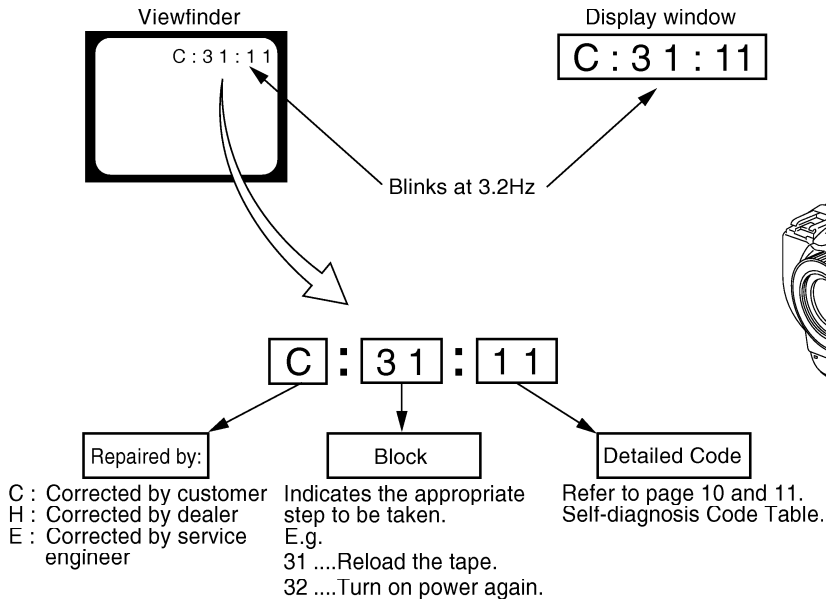
1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or Display window what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.

2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or Display window shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.

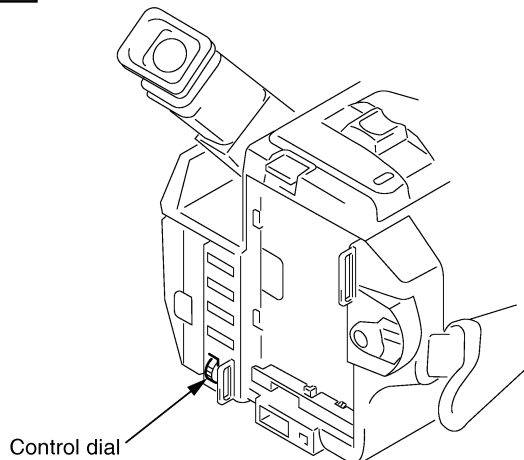
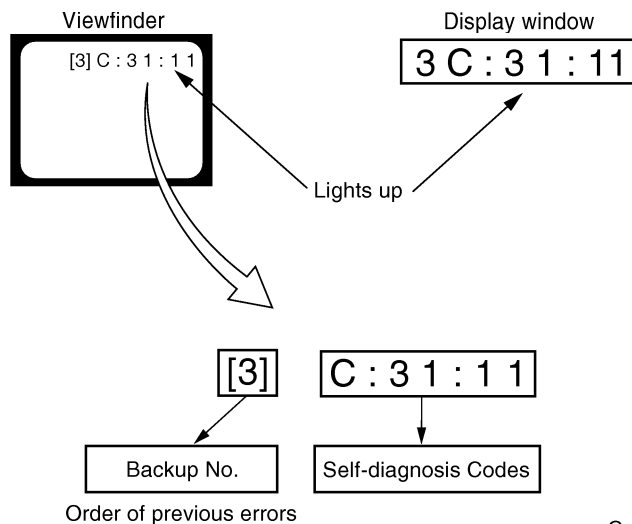


3. Service Mode Display

The service mode display shows up to six self-diagnosis codes shown in the past.

3-1. Display Method

While pressing the “STOP” key, set the switch from OFF to “VTR or PLAYER”, and continue pressing the “STOP” key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.



3-2. Switching of Backup No.

By rotating the control dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

- | | |
|----------------------------|------------------------------|
| [1] : Occurred first time | [4] : Occurred fourth time |
| [2] : Occurred second time | [5] : Occurred fifth time |
| [3] : Occurred third time | [6] : Occurred the last time |

3-3. End of Display

Turning OFF the power supply will end the service mode display.

Note: The “self-diagnosis display” data will be backed up by the coin-type lithium battery (CF-69/70/72 board BH001). When this coin-type lithium battery is disconnected, the “self-diagnosis display” data will be lost by initialization.

4. Self-diagnosis Code Table

Self-diagnosis Code				Symptom/State	Correction
Repaired by:	Block Function	Detailed Code			
C	2 1	0 0		Condensation.	Remove the cassette, and insert it again after one hour.
C	2 2	0 0		Video head is dirty.	Clean with the optional cleaning cassette.
C	2 3	0 0		Non-standard battery is used.	Use the InfoLITHIUM battery.
C	3 1	1 0		LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	1 1		UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	2 0		T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 1		S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 2		T reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	2 3		S reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	3 0		FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3 1	3 1		FG fault during normal capstan operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 0		FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 1		PG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 2		FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 3		PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 4		Phase fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 2	1 0		LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	1 1		UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 0		T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 1		S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 2		T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 3		S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 0		FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 1		FG fault during normal capstan operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 0		FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 1		PG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 2		FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 3		PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 4		Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus)	Inspect the lens block focus reset sensor (Pin ⑨ of CN1551 of VC-235 board) when focusing is performed when the control dial is rotated in the focus manual mode and the focus motor drive circuit (IC1553 of VC-235 board) when the focusing is not performed. Note: Use the remote commander RM-95 only for the model without the focus dial.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens)	Inspect the lens block zoom reset sensor (Pin ⑩ of CN1551 of VC-235 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC1553 of VC-235 board) when zooming is not performed.
E	6 2	0 0	Handshake correction function does not work well. (With pitch angular velocity sensor output stopped)	Inspect pitch angular velocity sensor (SE201 of SE-104/112/114 board) peripheral circuits.
E	6 2	0 1	Handshake correction function does not work well. (With yaw angular velocity sensor output stopped)	Inspect yaw angular velocity sensor (SE202 of SE-104/112/114 board) peripheral circuits.

DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 SECTION 1 GENERAL

This section is extracted from DCR-TRV420E/
TRV520E/TRV620E instruction manual.

English

Welcome!

Congratulations on your purchase of this Sony Digital Handycam camcorder. With your Digital Handycam, you can capture life's precious moments with superior picture and sound quality. Your Digital Handycam is loaded with advanced features, but at the same time it is very easy to use. You will soon be producing home video that you can enjoy for years to come.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.
To avoid electrical shock, do not open the cabinet.
Refer servicing to qualified personnel only.

NOTICE ON THE SUPPLIED AC POWER ADAPTOR FOR CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS1362 (i.e., marked with ⚡ or ⚡ mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

ATTENTION

The electromagnetic fields at the specific frequencies may influence the picture and sound of this digital camcorder.

For the customers in Germany

Directive: EMC Directive 89/336/EEC.

92/31/EEC

This equipment complies with the EMC regulations when used under the following circumstances:

- Residential area
 - Business district
 - Light-industry district
- (This equipment complies with the EMC standard regulations EN55022 Class B.)

Русский

Добро пожаловать!

Поздравляем Вас с приобретением данной видеокамеры Digital Handycam фирмы Sony. С помощью Вашей видеокамеры Digital Handycam Вы сможете запечатлеть дорогие Вам мгновения жизни с превосходным качеством изображения и звука. Ваша видеокамера Digital Handycam оснащена усовершенствованными функциями, но в то же время ее очень легко использовать. Вскоре Вы будете создавать семейные видеопрограммы, которыми можете наслаждаться последующие годы.

ПРЕДУПРЕЖДЕНИЕ

Для предотвращения возгорания или опасности электрического удара не выставляйте аппарат на дождь или влагу.

Во избежание поражения электрическим током не открывайте корпус. За обслуживанием обращайтесь только к квалифицированному обслуживающему персоналу.

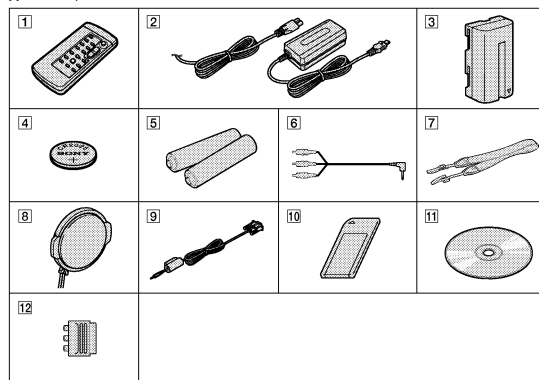
ВНИМАНИЕ

Электромагнитные поля на определенных частотах могут влиять на изображение и звук, воспроизводимые данной цифровой видеокамерой.



Checking supplied accessories

Make sure that the following accessories are supplied with your camcorder.



- 1 Wireless Remote Commander (1) (p. 170)
- 2 AC-L10A/L10B/L10C AC power adaptor (1), Mains lead (1) (p. 13)
- 3 NP-F330 battery pack (1) (p. 12, 13)
DCR-TRV520E/TRV620E
NP-F550 battery pack (1) (p. 12, 13)
DCR-TRV420E
- 4 CR2025 lithium battery (1) (p. 139)
The lithium battery is already installed in your camcorder.
- 5 R6 (Size AA) battery for Remote Commander (2) (p. 171)
- 6 A/V connecting cable (1) (p. 38)
- 7 Shoulder strap (1) (p. 167)
- 8 Lens cap (1) (p. 21)
- 9 PC serial cable (1) (p. 122)
- 10 "Memory Stick" (1) (p. 100)
- 11 Application software: PictureGear 4.1 Lite (CD-ROM) (1) (p. 122)
- 12 21-pin adaptor (1) (p. 39)

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

Проверка прилагаемых принадлежностей

Убедитесь, что следующие принадлежности прилагаются к Вашей видеокамере.

- 1 Беспроводный пульт дистанционного управления (1) (стр. 170)
- 2 Сетевой адаптер переменного тока AC-L10A/L10B/L10C (1) (стр. 13)
- 3 Батарейный блок NP-F330 (1) (стр. 12, 13)
DCR-TRV520E/TRV620E
Батарейный блок NP-F550 (1) (стр. 12, 13)
DCR-TRV420E
- 4 Литиевая батарейка CR2025 (1) (стр. 139)
Литиевая батарейка уже установлена в Вашей видеокамере.
- 5 Батарейка R6 (размера AA) для пульта дистанционного управления (2) (стр. 171)
- 6 Соединительный кабель аудио/видео (1) (стр. 38)
- 7 Плечевой ремень (1) (стр. 167)
- 8 Крышка объектива (1) (стр. 21)
- 9 Кабель для последовательного подсоединения к ПК (1) (стр. 122)
- 10 "Memory Stick" (1) (стр. 100)
- 11 Прикладное программное обеспечение: PictureGear 4.1 Lite (CD-ROM) (1) (стр. 122)
- 12 21-штырьковый адаптер (1) (стр. 39)

Содержание записи не может быть компенсировано в случае, если запись или воспроизведение не выполнены из-за неисправности видеокамеры, видеоленты и т.п.

2

5

English

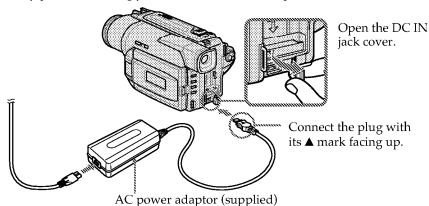
Quick Start Guide



This chapter introduces you to the basic features of your camcorder. See the page in parentheses "()" for more information.

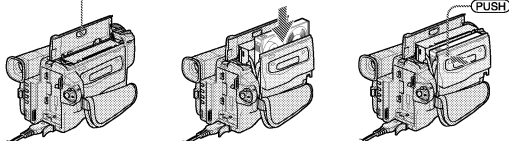
1 Connecting the mains lead (p. 18)

Use the battery pack when using your camcorder outdoors (p. 12).



2 Inserting a cassette (p. 19)

- 1 Open the lid of the cassette compartment, and press EJECT. The compartment opens automatically.
- 2 Insert a cassette into the cassette compartment with its window facing out and the write-protect tab on the cassette up.
- 3 Close the cassette compartment by pressing the (PUSH) mark on the cassette compartment. The cassette compartment automatically goes down. Close the lid of the cassette compartment.



3 Recording a picture (p. 21)

- 1 Remove the lens cap.
 - 2 Set the POWER switch to CAMERA while pressing the small green button.
 - 3 Open the LCD panel while pressing OPEN. The picture appears on the LCD screen.
 - 4 Press the red button. Your camcorder starts recording. To stop recording, press the red button again.
- Viewfinder**
When the LCD panel is closed, use the viewfinder placing your eye against its eyecup. The picture in the viewfinder is black and white (DCR-TRV420E/TRV520E only).

4 Monitoring the playback picture on the LCD screen (p. 33)

- 1 Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) while pressing the small green button.
- 2 Press ◀ to rewind the tape.
- 3 Press ▶ to start playback.

Note
Do not pick up your camcorder by holding the viewfinder, the LCD panel or the battery pack.



6

7

Using this manual

The instructions in this manual are for the three models listed in the table below. Before you start reading this manual and operating your camcorder, check the model number by looking at the bottom of your camcorder. The DCR-TRV620E is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "DCR-TRV620E only."

As you read through this manual, buttons and settings on your camcorder are shown in capital letters.

e.g. Set the POWER switch to CAMERA.

When you carry out an operation, you can hear a beep sound to indicate that the operation is being carried out.

Types of differences/Типы различий

DCR-	TRV420E	TRV520E	TRV620E
Viewfinder / Видоискатель	B / W	B / W	colour
Digital zoom / Цифровой varioобъектив	125x	100x	100x
POWER switch / Переключатель POWER	PLAYER	PLAYER	VTR*

* The models which have VTR mode on the POWER switch can record pictures from other equipment such as VCR.

Before using your camcorder

With your digital camcorder, you can use Hi8 Hi8 / Digital8 video cassettes. Your camcorder records and plays back pictures in the Digital8 system. Also, your camcorder plays back tapes recorded in the Hi8 / standard 8 (analog) system. You, however, cannot use the functions in "Advanced Playback Operations" on page 64 to 72 for playback in the Hi8 / standard 8 system. To enable smooth transition, we recommend that you do not mix pictures recorded in the Hi8 / standard 8 with the Digital8 system on a tape.

Использование данного руководства

Инструкции в данном руководстве предназначены для трех моделей, перечисленных в таблице ниже. Перед тем, как прочесть данное руководство и начать эксплуатацию Вашей видеокамеры, проверьте номер модели на нижней стороне Вашей видеокамеры. В качестве иллюстративных целей используется модель DCR-TRV620E. В других случаях номер модели указан на рисунках. Какие-либо расхождения в эксплуатации четко указаны в тексте, например, "только DCR-TRV620E."

При чтении данного руководства учитывайте, что кнопки и установки на видеокамере показаны заглавными буквами.

Прим. Установите выключатель POWER в положение CAMERA.

При выполнении операции на видеокамере Вы сможете услышать зуммерный сигнал, подтверждающий выполнение операции.

* Модели, в которых имеется режим VTR на переключателе POWER, могут записывать изображения с другого оборудования, как, например VCR.

Перед началом эксплуатации Вашей видеокамеры

Для Вашей цифровой видеокамеры Вы можете использовать видеокассеты Hi8 / Digital8. Ваша видеокамера записывает и воспроизводит изображения в цифровой системе Digital8. Также, Ваша видеокамера воспроизводит ленты, записанные в системе Hi8 / стандартной системе 8 (аналоговой). Однако, Вы не можете использовать функции в разделе "Усовершенствованные операции воспроизведения" на страницах с 64 по 72 для воспроизведения в системе Hi8 / стандартной системе 8. Для обеспечения плавного перехода рекомендуется не смешивать на ленте изображения, записанные в системе Hi8 / стандартной системе 8 с изображениями, записанными в цифровой системе Digital8.

Using this manual

Note on TV colour systems

TV colour systems differ from country to country. To view your recordings on a TV, you need a PAL system-based TV.

Copyright precautions

Television programmes, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Precautions on camcorder care

- The LCD screen and the viewfinder are manufactured using high-precision technology. However, there may be some tiny black points and/or bright points (red, blue, green or white) that constantly appear on the LCD screen and in the viewfinder. These points occur normally in the manufacturing process and do not affect the recorded picture in any way. Effective ratio of pixels and/or screen are 99.99% or more.
- Do not let your camcorder get wet. Keep your camcorder away from rain and sea water. Letting your camcorder get wet may cause your camcorder to malfunction. Sometimes this malfunction cannot be repaired [a].
- Never leave your camcorder exposed to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight [b].
- Do not place your camcorder so as to point the viewfinder, the LCD screen or lens toward the sun. The inside of the viewfinder, LCD screen or lens may be damaged [c].

Использование данного руководства

Примечание по системам цветного телевидения

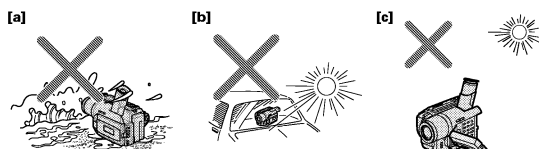
Системы цветного телевидения отличаются в зависимости от страны. Для просмотра Ваших записей на экране телевизора Вам необходимо использовать телевизор, основанный на системе PAL.

Предостережение об авторском праве

Телевизионные программы, кинофильмы, видеоленты и другие материалы могут быть защищены авторским правом. Нелицензированная запись таких материалов может противоречить положениям закона об авторском праве.

Меры предосторожности при уходе за видеокамерой

- Экран ЖКД и видоискатель изготовлены с помощью высокоточной технологии. Однако на экране ЖКД и в видоискателе могут постоянно появляться черные или яркие цветные точки (красные, синие, зеленые или белые). Появление этих точек вполне нормально для процесса съемки и низким образом не влияет на записываемое изображение. Свыше 99.99% экрана предназначено для эффективного использования.
- Не допускайте, чтобы видеокамера становилась влажной. Предотвращайте видеокамеру от дождя и морской воды. Если Вы намочите видеокамеру, то это может привести к неисправности аппарата, которая не всегда может быть устранена [a].
- Никогда не оставляйте видеокамеру в месте с температурой выше 60°C (140°F), как, например, в автомобиле, оставленном на солнце или под прямым солнечным светом [b].
- Не располагайте свою видеокамеру таким образом, чтобы видоискатель, экран ЖКД или объектив были направлены на солнце. Иначе может быть повреждено внутреннее устройство видоискателя, экрана ЖКД или объектива [c].

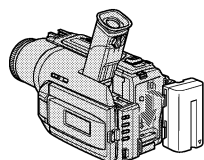


Step 1 Preparing the power supply

Installing the battery pack

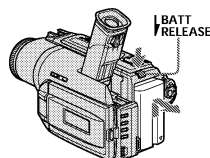
Install the battery pack to use your camcorder outdoors.

Slide the battery pack down until it clicks.



To remove the battery pack

Slide the battery pack out in the direction of the arrow while pressing BATT RELEASE down.



After installing the battery pack

Do not carry your camcorder by holding the battery pack. If you do so, the battery pack may slide off your camcorder unintentionally, damaging your camcorder.

Пункт 1 Подготовка источника питания

Установка батарейного блока

Установите батарейный блок для того, чтобы использовать Вашу видеокамеру вне помещения.

Передвиньте батарейный блок вниз, так чтобы он защелкнулся на месте.

Для снятия батарейного блока

Передвиньте батарейный блок в направлении стрелки, нажав кнопку BATT RELEASE вниз.

После установки батарейного блока

Не переносите камеру, держащуюся за батарейный блок. Если Вы так сделаете, батарейный блок может произвольно соскользнуть с Вашей видеокамеры и повредить ее.

Step 1 Preparing the power supply

Charging the battery pack

Use the battery pack after charging it for your camcorder.

Your camcorder operates only with the "InfoLITHIUM" battery pack (L series).

- Open the DC IN jack cover and connect the AC power adaptor supplied with your camcorder to the DC IN jack with the plug's mark facing up.
- Connect the mains lead to the AC power adaptor.
- Connect the mains lead to the mains.
- Set the POWER switch to OFF (CHARGE). Charging begins. The remaining battery time is indicated in minutes on the display window.

When the remaining battery indicator changes to , normal charge is completed. To fully charge the battery (full charge), leave the battery pack attached for about 1 hour after normal charge is completed until FULL appears in the display window. Fully charging the battery allows you to use the battery longer than usual.

Пункт 1 Подготовка источника питания

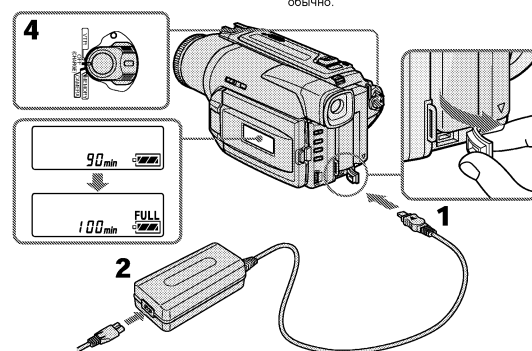
Зарядка батарейного блока

Используйте батарейный блок для Вашей видеокамеры после его зарядки.

Ваша видеокамера работает только с батарейным блоком "InfoLITHIUM" (серии L).

- Откройте крышку гнезда DC IN и подсоедините сетевой адаптер переменного тока, прилагаемый к Вашей видеокамере, к гнезду DC IN, так чтобы штекер был направлен вверх.
- Подсоедините провод электропитания к сетевому адаптеру переменного тока.
- Подсоедините провод электропитания к сетевой розетке.
- Установите переключатель POWER в положение OFF (CHARGE). Начнется зарядка. В окошке дисплея будет отображаться время оставшегося заряда в минутах.

Если индикатор оставшегося заряда изменится на , это значит, что нормальная зарядка завершена. Для полной зарядки батарейного блока (полная зарядка) оставьте батарейный блок прикрепленным на месте приблизительно на один час после завершения нормальной зарядки до тех пор, пока в окошке дисплея не появится индикация FULL. Полная зарядка батарейного блока позволяет Вам использовать батарейный блок дольше чем обычно.



Step 1 Preparing the power supply

After charging the battery pack

Disconnect the AC power adaptor from the DC IN jack on your camcorder.

Notes

- Prevent metallic objects from coming into contact with the metal parts of the DC plug of the AC power adaptor. This may cause a short-circuit, damaging the AC power adaptor.
- Keep the battery pack dry.
- When the battery pack is not to be used for a long time, charge the battery pack once fully, and then use it until it fully discharges again. Keep the battery pack in a cool place.

When the battery pack is charged fully

The LCD backlight of the display window is turned off.

Remaining battery time indicator

The remaining battery time indicator in the display window roughly indicates the recording time with the viewfinder.

Battery pack

The supplied battery pack is charged a little.

Until your camcorder calculates the actual remaining battery time

"--- min" appears in the display window.

While charging the battery pack, no indicator appears or the indicator flashes in the display window in the following cases:

- The battery pack is not installed correctly.
- The AC power adaptor is disconnected.
- Something is wrong with the battery pack.

Пункт 1 Подготовка источника питания

После зарядки батарейного блока

Отсоедините сетевой адаптер переменного тока от гнезда DC IN на Вашей видеокамере.

Примечание

- Не допускайте контакта металлических предметов с металлическими частями штекера постоянного тока сетевого адаптера. Это может привести к короткому замыканию и повреждению Вашего сетевого адаптера.
- Содержите батарейный блок в сухом состоянии.
- Если батарейный блок предполагается не использовать длительное время, зарядите его полностью один раз, а затем используйте до тех пор, пока он снова полностью не разрядится. Храните батарейный блок в прохладном месте.

Если батарейный блок заряжен полностью Задняя подсветка ЖКД в окошке дисплея выключится.

Индикатор времени оставшегося заряда батарейного блока

Индикатор времени оставшегося заряда батарейного блока в окошке дисплея приблизительно указывает время записи с помощью видеоскалтера.

Батарейный блок

Батарейный блок уже немного заряжен на предприятии-изготовителе.

До тех пор, пока Ваша видеокамера определит действительное время оставшегося заряда батарейного блока в окошке дисплея будет отображаться индикация "--- min".

Во время зарядки батарейного блока никакой индикатор не появляется, или индикатор будет мигать в окошке дисплея в следующих случаях

- Батарейный блок установлен неправильно.
- Отсоединен сетевой адаптер переменного тока.
- Что-то не в порядке с батарейным блоком.

Step 1 Preparing the power supply

Charging time/Время зарядки

Battery pack/ Батарейный блок	Full charge (Normal charge)/ Полная зарядка (нормальная зарядка)
NP-F330 ¹⁾	150 (90)
NP-F530 / F550 ²⁾	210 (150)
NP-F730 / F750	300 (240)
NP-F930 / F950	390 (330)
NP-F960	420 (360)

Approximate number of minutes to charge an empty battery pack

¹⁾ Supplied with DCR-TRV520E / TRV620E

²⁾ Supplied with DCR-TRV420E

Пункт 1 Подготовка источника питания

Приблизительное время в минутах для зарядки полностью разряженного батарейного блока

¹⁾ Прилагается к DCR-TRV520E/TRV620E

²⁾ Прилагается к DCR-TRV420E

Recording time/Время записи

Battery pack/ Батарейный блок	Recording with the viewfinder/ Запись с помощью видеоскалтера		Recording with the LCD screen/ Запись с помощью экрана ЖКД	
	Continuous ³⁾ Непрерывная ³⁾	Typical ⁴⁾ Типичная ⁴⁾	Continuous ³⁾ Непрерывная ³⁾	Typical ⁴⁾ Типичная ⁴⁾
NP-F330 ¹⁾	100 (90)	55 (50)	75 (65)	40 (35)
NP-F530	170 (155)	95 (90)	120 (105)	70 (60)
NP-F550 ²⁾	205 (185)	115 (105)	145 (130)	80 (75)
NP-F730	350 (310)	200 (175)	265 (240)	150 (135)
NP-F750	425 (380)	240 (215)	305 (270)	175 (155)
NP-F930	555 (500)	315 (285)	415 (375)	235 (215)
NP-F950	650 (590)	370 (335)	475 (430)	270 (245)
NP-F960	765 (685)	435 (390)	565 (505)	320 (285)

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "()" indicate the time using a normally charged battery.

¹⁾ Supplied with DCR-TRV520E / TRV620E

²⁾ Supplied with DCR-TRV420E

³⁾ Approximate continuous recording time at 25°C (77°F). The battery life will be shorter if you use your camcorder in a cold environment.

⁴⁾ Approximate number of minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

Приблизительное время в минутах при использовании полностью заряженного батарейного блока

Числа в скобках "()" указывают время при использовании батарейного блока с нормальной зарядкой.

¹⁾ Прилагается к DCR-TRV520E/TRV620E

²⁾ Прилагается к DCR-TRV420E

³⁾ Приблизительное время непрерывной записи при температуре 25°C (77°F). При использовании видеокамеры в холодных условиях срок службы батарейного блока будет короче.

⁴⁾ Приблизительное время в минутах при записи с неоднократным пуском/остановкой записи, наездом видеокамеры и включением/выключением питания. Фактический срок службы заряда батарейного блока может быть короче.

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Step 1 Preparing the power supply

Playing time/Время воспроизведения

Battery pack/ Батарейный блок	Playing time on LCD screen/ Время воспроизведения на экране ЖКД	Playing time with LCD closed/ Время воспроизведения при закрытом ЖКД
NP-F330 ¹⁾	70 (65)	100 (90)
NP-F530	115 (105)	165 (150)
NP-F550 ²⁾	145 (130)	200 (180)
NP-F730	260 (235)	335 (300)
NP-F750	295 (265)	410 (365)
NP-F930	405 (370)	535 (480)
NP-F950	465 (420)	630 (570)
NP-F960	550 (495)	740 (665)

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "()" indicate the time using a normally charged battery. The battery life will be shorter if you use your camcorder in a cold environment.

¹⁾ Supplied with DCR-TRV520E / TRV620E

²⁾ Supplied with DCR-TRV420E

Пункт 1 Подготовка источника питания

Приблизительное время в минутах при использовании полностью заряженного батарейного блока

Цифры в скобках "()" указывают время при использовании батарейного блока с нормальной зарядкой. При использовании видеокамеры в холодных условиях срок службы батарейного блока будет короче.

¹⁾ Прилагается к DCR-TRV520E/TRV620E

²⁾ Прилагается к DCR-TRV420E

Step 1 Preparing the power supply


The remaining battery time indicator

The indicator may not be correct, depending on the conditions in which you are recording. When you close the LCD panel and open it again, it takes about 1 minute for the correct remaining battery time to be displayed.

If the power may go off although the battery remaining indicator indicates that the battery pack has enough power to operate.

Charge the battery pack fully again so that the indication on the battery remaining indicator is correct.

What is "InfoLITHIUM"?

The "InfoLITHIUM" is a lithium ion battery pack which can exchange data such as battery consumption with compatible electronic equipment. This unit is compatible with the "InfoLITHIUM" battery pack (L series). Your camcorder operates only with the "InfoLITHIUM" battery. "InfoLITHIUM" battery packs have the  mark. "InfoLITHIUM" is a trademark of Sony Corporation.


Пункт 1 Подготовка источника питания

По индикатору времени оставшегося заряда батарейного блока во время записи

Индикатор может быть неправильным в зависимости от условий, в которых выполняется запись. Если Вы закроете панель ЖКД и откроете ее снова, то пройдет около 1 минуты, прежде чем на дисплее появится правильное время оставшегося заряда батарейного блока.

Если заряд может быть израсходован, а индикатор времени оставшегося заряда батарейного блока будет показывать, что заряд батарейного блока вполне достаточный для его эксплуатации. Зарядите батарейный блок еще раз, так чтобы показание на индикаторе оставшегося заряда батарейного блока было правильным.

Что такое "InfoLITHIUM"?

"InfoLITHIUM" представляет собой литиево-ионный батарейный блок, который может обмениваться данными, такими как потребление заряда батарейного блока, с совместимой электронной аппаратурой. Это устройство совместно с батарейным блоком "InfoLITHIUM" (серии L). Ваша видеокамера работает только с батарейным блоком "InfoLITHIUM". На батарейных блоках "InfoLITHIUM" имеется знак . "InfoLITHIUM" является торговой маркой корпорации Sony Corporation

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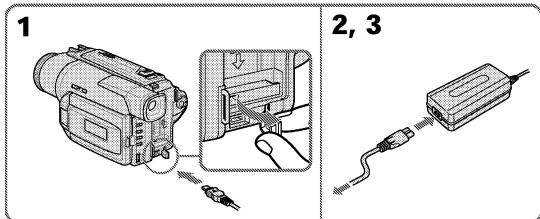
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Step 1 Preparing the power supply

Connecting to the mains

When you use your camcorder for a long time, we recommend that you power it from the mains using the AC power adaptor.

- (1) Open the DC IN jack cover, and connect the AC power adaptor to the DC IN jack on your camcorder with the plug's ▲ mark facing up.
- (2) Connect the mains lead to the AC power adaptor.
- (3) Connect the mains lead to the mains.



PRECAUTION

The set is not disconnected from the AC power source (the mains) as long as it is connected to the mains, even if the set itself has been turned off.

Notes

- The AC power adaptor can supply power even if the battery pack is attached to your camcorder.
- The DC IN jack has "source priority". This means that the battery pack cannot supply any power if the mains lead is connected to the DC IN jack, even when the mains lead is not plugged into the mains.

Using a car battery

Use Sony DC Adaptor/Charger (not supplied).

Пункт 1 Подготовка источника питания

Подсоединение к сетевой розетке

Если Вы собираетесь использовать видеокамеру длительное время, рекомендуется использовать питание от электрической сети с помощью сетевого адаптера переменного тока.

- (1) Откройте крышку гнезда DC IN и подсоедините сетевой адаптер переменного тока к гнезду DC IN на Вашей видеокамере, так чтобы знак ▲ на штекере был обращен вверх.
- (2) Подсоедините провод электропитания к сетевому адаптеру переменного тока.
- (3) Подсоедините провод электропитания к сетевой розетке.

ПРЕДОСТЕРЕЖЕНИЕ

Аппарат не отключается от источника переменного тока до тех пор, пока он подсоединен к электрической сети, даже если сам аппарат и выключен.

Примечания

- Питание от сетевого адаптера переменного тока может подаваться даже в случае, если батарейный блок прикреплен к Вашей видеокамере.
- Гнездо DC IN имеет "приоритет источника". Это значит, что питание от батарейного блока не может подаваться, если провод электропитания подсоединен к гнезду DC IN, даже если провод электропитания и не подсоединен к сетевой розетке.

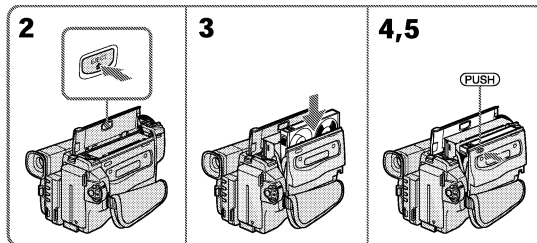
Использование автомобильного аккумулятора

Используйте адаптер/зарядное устройство постоянного тока фирмы Sony (не прилагается).

Step 2 Inserting a cassette

We recommend using Hi8 **Hi8**/Digital8 **Hi8** video cassettes.

- (1) Prepare the power supply (p. 12).
- (2) Open the lid of the cassette compartment, and press EJECT. The cassette compartment opens automatically.
- (3) Insert a cassette with its window facing out and the write-protect tab on the cassette up.
- (4) Close the cassette compartment by pressing the **PUSH** mark on the cassette compartment. The cassette compartment automatically goes down.
- (5) Close the lid of the cassette compartment.



To eject a cassette

Follow the procedure above, and eject the cassette in step 3.

Пункт 2 Установка кассеты

Рекомендуется использовать видеокассеты типа Hi8 **Hi8**/Digital8 **Hi8**.

- (1) Приготовьте источник питания (стр. 12).
- (2) Откройте крышку кассетного отсека и нажмите кнопку EJECT. Кассетный отсек автоматически откроется.
- (3) Вставьте кассету, так чтобы окошко было обращено наружу, а лепесток защиты записи на кассете вверх.
- (4) Закройте кассетный отсек, нажав метку **PUSH** на отсеке. Кассетный отсек автоматически закроется.
- (5) Закройте крышку кассетного отсека.

Для извлечения кассеты

Выполните приведенную выше процедуру и вытолкните кассету в пункте 3.

Step 2 Inserting a cassette

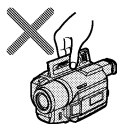
Notes

- Do not press the cassette compartment down. Doing so may cause malfunction.
- Your camcorder records pictures in the Digital8 **Hi8** system.
- The recording time when you use your camcorder is half of indicated time on Hi8 **Hi8** tape. If you select the LP mode in the menu settings, 3/4 of indicated time on Hi8 **Hi8** tape.
- If you use standard 8 **Hi8** tape, be sure to play back the tape on this camcorder. Mosaic-pattern noise may appear when you play back standard 8 **Hi8** tape on other camcorders (including other DCR-TRV420E/TRV520E/TRV620E).
- The cassette compartment may not be closed when you press any part of the lid other than the **PUSH** mark.
- Do not pick up your camcorder by holding the lid of the cassette compartment.

Пункт 2 Установка кассеты

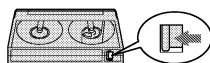
Примечания

- Не нажимайте вниз кассетный отсек. Это может привести к неисправности.
- Ваша видеокамера выполняет запись изображений в системе Digital8 **Hi8**.
- Время записи при использовании Вашей цифровой видеокамеры в два раза меньше времени, указанного на ленте Hi8 **Hi8**. Если Вы выберете режим LP в установках, то время записи будет равно 3/4 меньше времени, указанного на ленте Hi8 **Hi8**.
- Если Вы используете стандартную ленту 8 **Hi8**, то ее рекомендуется воспроизводить на этой же видеокамере. Записанные с помощью Вашей видеокамеры, на Вашей же видеокамере. В случае воспроизведения стандартных лент типа 8 **Hi8** на других видеокамерах, могут появиться помехи мозаичного типа (включая другие видеокамеры DCR-TRV420E/TRV520E/TRV620E).
- Кассетный отсек может не закрыться, если Вы нажмете на какое-либо другое место на крышке, а не на метку **PUSH**.
- Не поднимайте видеокамеру за крышку кассетного отсека.



To prevent accidental erasure

Slide the write-protect tab on the cassette to expose the red mark.



Для предотвращения случайного стирания Передвиньте лепесток защиты записи на кассете, так чтобы появилась красная метка.

— Recording - Basics —

Recording a picture

Your camcorder automatically focuses for you.

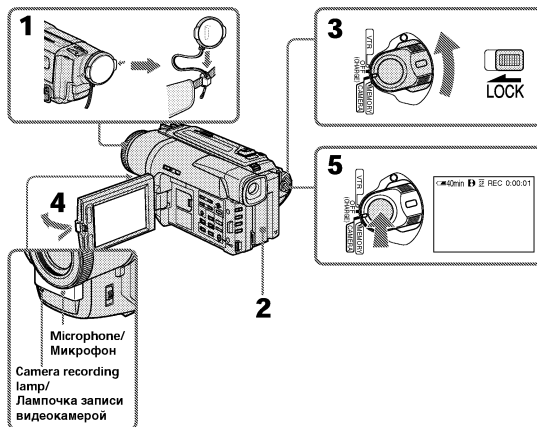
- (1) Remove the lens cap by pressing both knobs on its sides and attach the lens cap to the grip strap.
- (2) Install the power source and insert a cassette. See "Step 1" and "Step 2" for more information (p. 12 to 20).
- (3) Set the POWER switch to CAMERA while pressing the small green button. Your camcorder is set to the standby mode.
- (4) Open the LCD panel while pressing OPEN. The viewfinder automatically turns off.
- (5) Press START/STOP. Your camcorder starts recording. The REC indicator appears. The camera recording lamp located on the front of your camcorder lights up. To stop recording, press START/STOP again. The recording lamp lights up in the viewfinder when you record with the viewfinder. (DCR-TRV420E/TRV520E)

— Запись - Основные положения —

Запись изображения

Ваша видеокамера автоматически выполнит фокусировку за Вас.

- (1) Снимите крышку объектива, нажав обе кнопки на ее кромке, и прикрепите крышку объектива к ремню для захвата.
- (2) Установите источник питания и вставьте кассету. Подробные сведения приведены в "Пункте 1" и "Пункте 2" (стр. 12 - 20).
- (3) Нажав маленькую зеленую кнопку, установите переключатель POWER в положение CAMERA. Ваша видеокамера переключится в режим ожидания.
- (4) Нажав кнопку OPEN, откройте панель ЖКД. Видеоскрин выключится автоматически.
- (5) Нажмите кнопку START/STOP. Ваша видеокамера начнет запись. Появится индикатор REC. Высветится также лампочка записи, расположенная на передней панели видеокамеры. Для остановки записи нажмите кнопку START/STOP еще раз. При записи с помощью видискателя, внутри него высветится лампочка записи. (только DCR-TRV420E/TRV520E)



Recording a picture

Notes

- Fasten the grip strap firmly.
- Do not touch the built-in microphone during recording.

Note on Recording mode

Your camcorder records and plays back in the SP (standard play) mode and in the LP (long play) mode. Select SP or LP in the menu settings (p. 85). In the LP mode, you can record 1.5 times as long as in the SP mode. When you record a tape in the LP mode on your camcorder, we recommend that you play back the tape on your camcorder.

Note on LOCK

When you slide LOCK to the left, the POWER switch can no longer be set to MEMORY accidentally. The LOCK is released as a default setting.

To enable smooth transition

You can make the transition between the last scene you recorded and the next scene smooth as long as you do not eject the cassette if you turn off your camcorder. When you change the battery pack, set the POWER switch to OFF (CHARGE).

If you leave your camcorder in the standby mode for 3 minutes

Your camcorder automatically turns off. This is to save battery power and to prevent battery and tape wear. To resume the standby mode, set the POWER switch to OFF (CHARGE) once, then turn it to CAMERA again.

Запись изображения

Примечания

- Плотно пристегните ремень для захвата видеокамеры.
- Не прикасайтесь к встроенному микрофону во время записи.

Примечание по режиму записи

Ваша видеокамера выполняет запись и воспроизведение в режиме SP (стандартное воспроизведение) и в режиме LP (длгоиграющее воспроизведение). Выберите команду SP или LP в установках меню (стр. 85). В режиме LP Вы можете выполнять запись в 1,5 раза дольше по времени, чем в режиме SP. При выполнении на Вашей видеокамере записи на ленту в режиме LP рекомендуется воспроизводить эту ленту также на Вашей видеокамере.

Примечание по режиму LOCK

Если Вы передвинете переключатель LOCK влево, переключатель POWER уже не может быть случайно установлен в положение MEMORY. Режим LOCK будет устанавливаться по умолчанию.

Для обеспечения плавного перехода

Вы можете выполнять плавный переход между последним записанным эпизодом и следующим эпизодом до тех пор, пока не извлечете кассету при выключенном питании. При замене батарейного блока установите переключатель POWER в положение OFF (CHARGE).

Если Вы оставите Вашу видеокамеру в режиме ожидания на 3 минуты

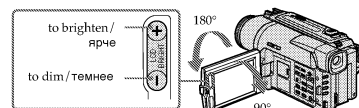
Видеокамера выключится автоматически. Это предотвращает расход заряда батарейного блока и износ ленты. Для возобновления режима ожидания установите переключатель POWER в положение OFF (CHARGE), а затем снова поверните его в положение CAMERA.

Recording a picture

Adjusting the LCD screen

To adjust the brightness of the LCD screen, press either of the two buttons on LCD BRIGHT. The LCD panel moves about 90 degrees to the viewfinder side and about 180 degrees to the lens side.

If you turn the LCD panel over so that it faces the other way, the indicator appears on the LCD screen and in the viewfinder (**Mirror mode**).



When closing the LCD panel, set it vertically until it clicks, and swing it into the camcorder body.

Note

When using the LCD screen except in the mirror mode, the viewfinder automatically turns off.

When you use the LCD screen outdoors in direct sunlight

The LCD screen may be difficult to see. If this happens, we recommend that you use the viewfinder.



Picture in the mirror mode

The picture on the LCD is a mirror-image. However, the picture will be normal when recorded.

During recording in the mirror mode

You cannot operate the ZERO SET MEMORY on the Remote Commander.


Indicators in the mirror mode

The STBY indicator appears as  and REC as . Some of other indicators appear mirror-reversed and others are not displayed.

Запись изображения

Регулировка экрана ЖКД

Для регулировки яркости экрана ЖКД нажмите одну из кнопок на LCD BRIGHT. Панель ЖКД может передвигаться примерно на 90 градусов в сторону видоискателя и примерно на 180 градусов в сторону объектива.

Если Вы повернете панель ЖКД так, что она будет направлена в другую сторону, на экране ЖКД появится индикатор  (**Зеркальный режим**).

При закрытии панели ЖКД установите ее вертикально, пока не раздастся щелчок, а затем присоедините ее к корпусу видеокамеры.

Примечание

При использовании экрана ЖКД видоискатель автоматически выключается, кроме зеркального режима.

Если Вы используете экран ЖКД вне помещения под прямым солнечным светом

Возможно будет трудно разглядеть экран ЖКД. В этом случае рекомендуется использовать видоискатель.



Изображение в зеркальном режиме

Изображение на экране ЖКД будет отображаться зеркально. Однако запись изображения будет нормальной.

Во время записи в зеркальном режиме

Вы не можете оперировать кнопкой ZERO SET MEMORY на пульте дистанционного управления.

Индикаторы в зеркальном режиме

Индикатор STBY появится в виде  а индикатор REC в виде . Некоторые другие индикаторы появятся в зеркальном отображенном виде, а некоторые из них не будут отображаться совсем.

Recording a picture

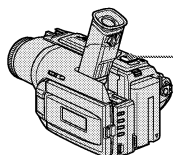
After recording

- (1) Set the POWER switch to OFF (CHARGE).
- (2) Close the LCD panel.
- (3) Eject the cassette.

Using the zoom feature

Move the power zoom lever a little for a slower zoom. Move it further for a faster zoom. Using the zoom function sparingly results in better-looking recordings.

"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)



Zoom greater than 25x is performed digitally. To activate digital zoom, select the digital zoom power in D ZOOM in the menu settings. (p. 85) The picture quality deteriorates as the picture is processed digitally.

Запись изображения

После записи

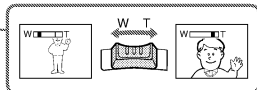
- (1) Установите переключатель POWER в положение OFF (CHARGE).
- (2) Закройте панель ЖКД.
- (3) Извлеките кассету.

Использование функции наезда видеокамеры

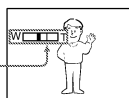
Передвиньте рычаг приводного вариообъектива слегка для относительно медленного наезда видеокамеры. Передвиньте его сильнее для ускоренного наезда видеокамеры.

Использование функции наезда видеокамеры в небольшом количестве обеспечивает наилучшие результаты.

Сторона "T": для телефото (объект приближается)
Сторона "W": для широкоугольного вида (объект удаляется)



Наезд видеокамеры более 25x выполняется цифровым методом. Для приведения в действие цифрового вариообъектива выберите приводной цифровой вариообъектив D ZOOM в установках меню (стр. 85). Поскольку обработка изображения выполняется цифровым способом, качество изображения несколько ухудшится.



The right side of the bar shows the digital zooming zone. The digital zooming zone appears when you select the digital zoom power in D ZOOM in the menu settings. / Правая сторона полосы на экране показывает зону цифровой трансфокации. Если Вы выберете приводной цифровой вариообъектив D ZOOM в установках меню, появится зона цифровой трансфокации.

Recording a picture

Notes on digital zoom

- Digital zoom starts to function when zoom exceeds 25x.
- The picture quality deteriorates as you go toward the "T" side.

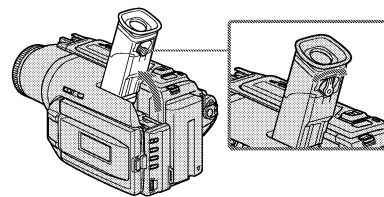
When you shoot close to a subject

If you cannot get a sharp focus, move the power zoom lever to the "W" side until the focus is sharp. You can shoot a subject that is at least about 80 cm (about 2 feet 5/8 inch) away from the lens surface in the telephoto position, or about 1 cm (about 1/2 inch) away in the wide-angle position.

To record pictures with the viewfinder – adjusting the viewfinder

If you record pictures with the LCD panel closed, check the picture with the viewfinder. Adjust the viewfinder lens to your eyesight so that the indicators in the viewfinder come into sharp focus.

Lift up the viewfinder and move the viewfinder lens adjustment lever.



Запись изображения

Примечания к наезду видеокамеры цифровым методом

- Цифровой вариообъектив начинает обрабатывать в случае, если наезд видеокамеры превышает 25x.
- Качество изображения ухудшается по мере приближения к стороне "T".

При съемке объекта с близкого положения

Если Вы не можете получить четкой фокусировки, передвиньте рычаг приводного вариообъектива сторону "W" до получения четкой фокусировки. Вы можете выполнять съемку объекта в положении телефото, который отстоит по крайней мере на расстоянии 80 см от поверхности объектива или же около 1 см в положении широкоугольного вида.

Для записи изображений с помощью видоискателя – регулировка видоискателя

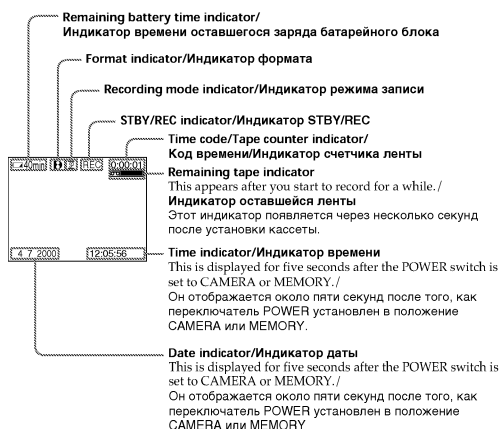
Если Вы будете записывать изображения при закрытой панели ЖКД, проверьте изображение с помощью видоискателя. Отрегулируйте объектив видоискателя в соответствии со своим зрением, так чтобы индикаторы в видоискателе были четко сфокусированы.

Поднимите видоискатель и подвигайте рычаг регулировки объектива видоискателя.

Recording a picture

Indicators displayed in the recording mode

The indicators are not recorded on tape.



Time code (for tapes recorded in the Digital8 system only)

The time code indicates the recording or playback time, "0:00:00" (hours:minutes:seconds) in CAMERA mode and "0:00:00:00" (hours:minutes:seconds:frames) in VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode. You cannot rewrite only the time code.

When you play back tapes recorded in the Hi8/standard 8 system, the tape counter appears. You cannot reset the time code or the tape counter.

Запись изображения

Индикаторы, отображаемые в режиме записи

Индикаторы не записываются на ленту.

Код времени (только для лент, записанных в цифровой системе Digital8)

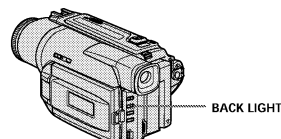
Код времени указывает время записи или воспроизведения, "0:00:00" (часы: минуты: секунды) в режиме CAMERA и "0:00:00:00" (часы: минуты: секунды: кадры) в режиме VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Вы не можете перезаписать только код времени. При воспроизведении лент, записанных в системе Hi8/стандартной системе 8, появляется счетчик ленты. Вы не можете переустановить код времени или счетчик ленты.

Recording a picture

Shooting backlit subjects - BACK LIGHT

When you shoot a subject with the light source behind the subject or a subject with a light background, use the backlight function.

Press BACK LIGHT in CAMERA or MEMORY mode. The indicator appears on the LCD screen or in the viewfinder. To cancel, press BACK LIGHT again.



If you press EXPOSURE when shooting backlit subjects the backlight function is canceled.

Запись изображения

Съемка объектов с задней подсветкой - BACKLIGHT

Если Вы выполняете съемку объекта с источником света позади него или же объекта со светлым фоном, используйте функцию задней подсветки.

Нажмите кнопку BACK LIGHT в режиме CAMERA или MEMORY. В видоискателе или на экране ЖКД появится индикатор . Для отмены нажмите кнопку BACK LIGHT еще раз.

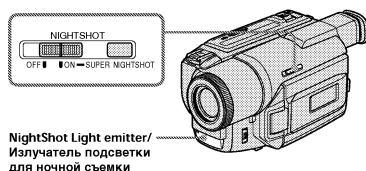
Если вы нажмете кнопку EXPOSURE при выполнении съемки объектов с задней подсветкой функция задней подсветки будет отменена.

Recording a picture

Shooting in the dark -NightShot/Super NightShot

The NightShot function enables you to shoot a subject in a dark place. For example, you can satisfactorily record the environment of nocturnal animals for observation when you use this function.

While your camcorder is in CAMERA or MEMORY mode, slide NIGHTSHOT to ON. and "NIGHTSHOT" indicators flash on the LCD screen or in the viewfinder. To cancel the NightShot function, slide NIGHTSHOT to OFF.



Using SUPER NIGHTSHOT

The Super NightShot mode makes subjects up to 16 times brighter than those recorded in the NightShot mode.

- Slide NIGHTSHOT to ON in CAMERA mode. and "NIGHTSHOT" indicators flash on the LCD screen or in the viewfinder.
- Press SUPER NIGHTSHOT. and "SUPER NIGHTSHOT" indicators flash on the LCD screen or in the viewfinder. To cancel the Super NightShot mode, press SUPER NIGHTSHOT again.

Using the NightShot Light

The picture will be clearer with the NightShot Light on. To enable NightShot Light, set N.S.LIGHT to ON in the menu settings (p. 85).

Запись изображения

Съемка в темноте - Ночная съемка/Ночная суперсъемка

Функция ночной съемки позволяет Вам выполнять съемку объектов в темных местах. Например, Вы сможете с успехом выполнять съемку ночных животных для наблюдения при использовании данной функции.

В то время, когда видеокамера находится в режиме CAMERA или MEMORY, передвиньте переключатель NIGHTSHOT в положение ON. Индикаторы и "NIGHTSHOT" начнут мигать на экране ЖКД или в видоискателе. Для отмены функции ночной съемки передвиньте переключатель NIGHTSHOT в положение OFF.

Использование режима SUPER NIGHTSHOT

Режим ночной суперсъемки позволяет сделать объекты более чем в 16 раз ярче, чем в случае, если Вы будете выполнять съемку в темноте в режиме ночной съемки.

- Передвиньте переключатель NIGHTSHOT в положение ON в режиме CAMERA. На экране ЖКД или в видоискателе появятся индикаторы и "NIGHTSHOT".
- Нажмите кнопку SUPER NIGHTSHOT. На экране ЖКД или в видоискателе начнут мигать индикаторы и "SUPER NIGHTSHOT". Для отмены режима ночной суперсъемки нажмите кнопку SUPER NIGHTSHOT еще раз.

Использование подсветки для ночной съемки

Изображение станет ярче, если включить функцию ночной подсветки. Для включения функции ночной подсветки установите переключатель N.S.LIGHT в положение ON в установках меню (стр. 85).

Recording a picture

Notes

- Do not use the NightShot function in bright places (ex. outdoors in the daytime). This may cause your camcorder to malfunction.
- When you keep NIGHTSHOT set to ON in normal recording, the picture may be recorded in incorrect or unnatural colours.
- If focusing is difficult with the autofocus mode when using the NightShot function, focus manually.

While using the NightShot function, you can not use the following functions:

- Exposure
- PROGRAM AE

While using the Super NightShot function, you can not use the following functions:

- Fader
- Digital effect
- Exposure
- PROGRAM AE

Shutter speed in the Super NightShot mode

The shutter speed will be automatically changed depending on the brightness of the background. The motion of the picture will be slow.

NightShot Light

NightShot Light rays are infrared and so are invisible. The maximum shooting distance using the NightShot Light is about 3 m (10 feet).

Запись изображения

Примечания

- Не используйте функцию ночной съемки в ярких местах (например, на улице в дневное время). Это может привести к неисправности Вашей видеокамеры.
- При удержании установки NIGHTSHOT в положении ON при нормальной записи изображение может быть записано в неправильных или неестественных цветах.
- Если фокусировка затруднена в автоматическом режиме при использовании функции ночной съемки, выполните фокусировку вручную.

При использовании функции ночной съемки Вы не можете использовать следующие функции:

- Экспозиция
- PROGRAM AE

При использовании функции ночной суперсъемки Вы не можете использовать следующие функции:

- Фейдер
- Цифровой эффект
- Экспозиция
- PROGRAM AE

Скорость затвора в режиме ночной суперсъемки

Скорость затвора будет автоматически изменяться в зависимости от яркости фона. Воспроизведение изображения будет замедленным.

Подсветка для ночной съемки

Лучи подсветки для ночной съемки являются инфракрасными и поэтому невидимыми. Максимальное расстояние для съемки при использовании подсветки для ночной съемки равно примерно 3 м.

Recording a picture

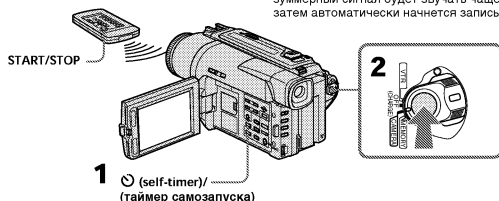
Self-timer recording

Recording with the self-timer starts in 10 seconds automatically.

This mode is useful when you want to record yourself. You can also use the Remote Commander for this operation.

- (1) Press **⏻** (self-timer) in the standby mode. The **⏻** (self-timer) indicator appears on the LCD screen or in the viewfinder.
- (2) Press START/STOP.

Self-timer starts counting down from 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically.



To stop the self-timer recording

Press START/STOP.
Use the Remote Commander for convenience.

To record still images using the self-timer

Press PHOTO in step 2. (P. 43)

To cancel self-timer recording

Press **⏻** (self-timer) so that the **⏻** indicator disappears from the LCD or viewfinder screen while your camcorder is in the standby mode.

Notes

- The self-timer recording mode is automatically cancelled when:
 - Self-timer recording is finished.
 - The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E).

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Запись изображения

Запись по таймеру самозапуска

Запись с помощью таймера самозапуска начнется через 10 секунд автоматически. Этот режим является полезным в том случае, если Вы хотите выполнить запись самого себя. Для этой операции Вы можете также использовать пульт дистанционного управления.

- (1) Нажмите кнопку **⏻** (таймер самозапуска) в режиме ожидания. На экране ЖКД или в видоискателе появится индикатор **⏻** (таймер самозапуска).
- (2) Нажмите кнопку START/STOP. Таймер самозапуска начнет обратный отсчет от 10 с зуммерным сигналом. В последние две секунды обратного отсчета зуммерный сигнал будет звучать чаще, а затем автоматически начнется запись.

Для остановки таймера самозапуска

Нажмите кнопку START/STOP.
Используйте для удобства пульт дистанционного управления.

Для записи неподвижных изображений с помощью таймера самозапуска

Нажмите кнопку PHOTO в пункте 2. (стр. 43)

Для отмены записи по таймеру самозапуска

Нажмите кнопку **⏻** (таймер самозапуска), так чтобы индикатор **⏻** исчез с экрана ЖКД или видоискателя в то время, когда Ваша видеокамера находится в режиме ожидания.

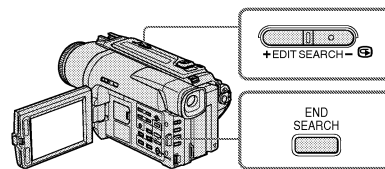
Примечание

- Режим записи по таймеру самозапуска будет автоматически отменен в случаях:
 - Окончания записи по таймеру самозапуска.
 - Установки переключателя POWER в положение OFF (CHARGE), VTR (модель UCH-1HV620E) или PLAYER (модель UCH-TRV420E/ TRV520E).

Checking the recording

– END SEARCH / EDITSEARCH / Rec Review

You can use these buttons to check the recorded picture or shoot so that the transition between the last recorded scene and the next scene you record is smooth.



END SEARCH

You can go to the end of the recorded section after you record.

Press END SEARCH in the standby mode. The last 5 seconds of the recorded section are played back and returns to the standby mode. You can monitor the sound from the speaker or headphones.

EDITSEARCH

You can search for the next recording start point.

Hold down the +/– (⏮) side of EDITSEARCH in the standby mode. The recorded section is played back.

- +/: to go forward
 - /: to go backward
- Release EDITSEARCH to stop playback. If you press START/STOP, re-recording begins from the point you released EDITSEARCH. You cannot monitor the sound.

Проверка записи

– END SEARCH / EDITSEARCH / Просмотр записи

Вы можете использовать эти кнопки для проверки записанного изображения или съемки, так чтобы переход между последним записанным эпизодом и следующим записываемым эпизодом был плавным.

END SEARCH

Вы можете дойти до конца записанной части ленты после выполнения записи.

Нажмите кнопку END SEARCH в режиме ожидания. Будут воспроизведены последние 5 секунд, после чего видеокамера вернется в режим ожидания. Вы можете контролировать звук через динамик или головные телефоны.

EDITSEARCH

Вы можете выполнять поиск места начала следующей записи.

- Держите нажатой сторону +/– (⏮) кнопки EDITSEARCH в режиме ожидания. Будет воспроизведена записанная часть.
 - +/: для продвижения вперед
 - /: для продвижения назад
- Отпустите кнопку EDITSEARCH для остановки воспроизведения. Если Вы нажмете кнопку START/STOP, начнется перезапись с того места, где Вы отпустили кнопку EDITSEARCH. Вы не можете контролировать звук.

Checking the recording

– END SEARCH / EDITSEARCH / Rec Review

Rec Review

You can check the section which you have stopped most recently.

Press the – (⏮) side of EDITSEARCH momentarily in the standby mode. The section you have stopped most recently will be played back for a few seconds, and then your camcorder will return to the standby mode. You can monitor the sound from the speaker or headphones.

Notes

- END SEARCH, EDITSEARCH and Rec Review work only for tapes recorded in the Digital Hi-Fi system.
- If you start recording after using the end search function, occasionally, the transition between the last scene you recorded and the next scene may not be smooth.
- Once you eject the cassette after you have recorded on the tape, the end search function does not work.

If a tape has a blank portion in the recorded portions

The end search function may not work correctly.

Проверка записи

– END SEARCH / EDITSEARCH / Просмотр записи

Просмотр записи

Вы можете проверить последнюю записанную часть.

Нажмите кратковременно сторону – (⏮) кнопки EDITSEARCH в режиме ожидания. Будут воспроизведены последние несколько секунд записанной части. Вы можете контролировать звук через акустическую систему или головные телефоны.

Примечания

- Функции END SEARCH, EDITSEARCH и просмотра записи работают только для лент, записанных в цифровой системе Digital Hi-Fi.
- Если Вы случайно начали запись после использования функции поиска конца записи, то переход между последним записанным эпизодом и следующим записываемым эпизодом может не быть плавным.
- Если Вы вытолкните кассету после того, как будет выполнена запись на ленте, функция поиска конца записи не будет работать.

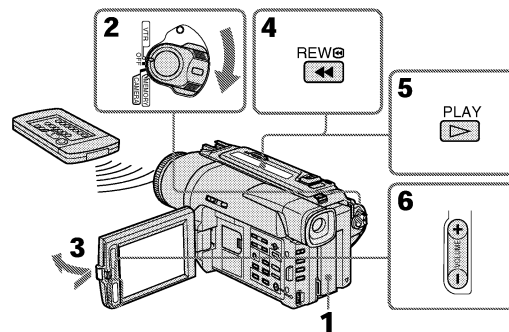
Если на ленте между записанными частями имеется незаписанный участок. Функция поиска может не работать.

– Playback – Basics –

Playing back a tape

You can monitor the playback picture on the LCD screen. If you close the LCD panel, you can monitor the playback picture in the viewfinder. You can control playback using the Remote Commander supplied with your camcorder.

- (1) Install the power source and insert the recorded tape.
- (2) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E) while pressing the small green button. The video control buttons light up.
- (3) Open the LCD panel while pressing OPEN.
- (4) Press **⏮** to rewind the tape.
- (5) Press **▶** to start playback.
- (6) To adjust the volume, press either of the two buttons on VOLUME. The speaker on your camcorder is silent when the LCD panel is closed.



To stop playback
Press **■**

Для остановки воспроизведения
Нажмите кнопку **■**

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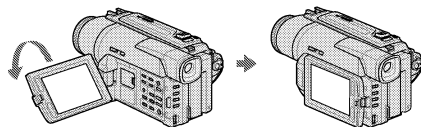
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Playback – Basics
Воспроизведение – Основные положения

Playing back a tape

When monitoring on the LCD screen

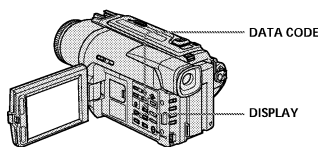
You can turn the LCD panel over and move it back to the camcorder body with the LCD screen facing out.



To display the screen indicators – Display function

Press DISPLAY on your camcorder or the Remote Commander supplied with your camcorder.

The indicators appear on the LCD screen. To make the indicators disappear, press DISPLAY again.



Воспроизведение ленты

Во время контроля на экране ЖКД

Вы можете повернуть панель управления и придвинуть ее обратно на место к корпусу видеокамеры, так что экран ЖКД будет обращен наружу.

Для отображения экранных индикаторов – Функция индикации

Нажмите кнопку DISPLAY на Вашей видеокамере или на пульте дистанционного управления, который прилагается к Вашей видеокамере. На экране ЖКД появятся индикаторы. Для того, чтобы индикаторы исчезли, нажмите еще раз кнопку DISPLAY.

Playing back a tape

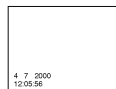
Using the data code function

Your camcorder automatically records not only images on the tape but also the recording data (date/time or various settings when recorded) (Data code).

Press DATA CODE on your camcorder or the Remote Commander in the playback mode.

The display changes as follows:

date/time → various settings (SteadyShot, exposure AUTO/MANUAL, white balance, gain, shutter speed, aperture value) → no indicator



Not to display recording date

Set DATA CODE to DATE in the menu settings (p. 85).

The display changes as follows: date/time → no indicator

Notes on the data code function

- The data code function works only for tapes recorded in the Digital8 **i** system.
- Various settings of the recording data are not recorded when recording images on "Memory Stick."

Recording data

Recording data is your camcorder's information when you have recorded. In the recording mode, the recording data will not be displayed.

When you use data code function, bars

(--- and --:-- appear if:

- A blank section of the tape is being played back.
- The tape is unreadable due to tape damage or noise.
- The tape was recorded by a camcorder without the date and time set.

Data Code

When you connect your camcorder to the TV, the data code appears on the TV screen.

Воспроизведение ленты

Использование функции кода даты

Ваша видеокамера автоматически записывает не только изображения на ленту, но также и данные записи (дату/время или разные установки при записи). (Код даты).

Нажмите кнопку DATE CODE на Вашей видеокамере или пульт дистанционного управления в режиме воспроизведения.

Индикация будет изменяться следующим образом:

дата/время → разные установки (устойчивая съемка, экспозиция AUTO/MANUAL, баланс белого, усиление, скорость затвора, величина диафрагмы) → без индикации

Для того, чтобы не отображались данные записи

Установите команду DATE CODE в положение DATE в установках меню (стр. 85). Индикация будет изменяться следующим образом: дата/время → без индикации

Примечания по функции кода данных

- Функция кода данных работает только для лент, записанных в цифровой системе Digital8 **i**.
- Разные установки данных записи не записываются при записи изображений на "Memory Stick".

Записанные данные

Записанные данные несут информацию о записи, выполненной Вашей видеокамерой. В режиме записи данные отображаются не будут.

Если Вы используете функцию кода данных, то появятся полосы (--- или --:--), если:

- Воспроизводится незаписанный участок на ленте.
- Лента является не читаемой из-за повреждения или помех.
- Запись на ленту была выполнена видеокамерой без установки даты и времени.

Код данных

Если Вы подсоедините Вашу видеокамеру к телевизору, на экране появится код данных.

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Playing back a tape

Various playback modes

To operate video control buttons, set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

To view a still picture (playback pause)

Press **II** during playback. To resume playback, press **II** or **▶**.

To advance the tape

Press **▶▶** in the stop mode. To resume normal playback, press **▶**.

To rewind the tape

Press **◀◀** in the stop mode. To resume normal playback, press **▶**.

To change the playback direction

Press **<** on the Remote Commander during playback to reverse the playback direction. To resume normal playback, press **▶**.

To locate a scene monitoring the picture (picture search)

Keep pressing **◀◀** or **▶▶** during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing or rewinding the tape (skip scan)

Keep pressing **◀◀** while rewinding or **▶▶** while advancing the tape. To resume rewinding or advancing, release the button.

To view the picture at slow speed (slow playback)

Press **■** on the Remote Commander during playback. For slow playback in the reverse direction, press **<**, then press **■** on the Remote Commander. To resume normal playback, press **▶**.

Воспроизведение ленты

Переменные режимы воспроизведения

Для выполнения управления кнопками установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

Для просмотра изображения (пауза воспроизведения)

Нажмите во время воспроизведения кнопку **II**. Для возобновления обычного воспроизведения нажмите кнопку **II** или кнопку **▶**.

Для ускоренной перемотки ленты вперед

Нажмите в режиме остановки кнопку **▶▶**. Для возобновления обычного воспроизведения нажмите кнопку **▶**.

Для ускоренной перемотки ленты назад

Нажмите в режиме остановки кнопку **◀◀**. Для возобновления обычного воспроизведения нажмите кнопку **▶**.

Для изменения направления воспроизведения

Нажмите кнопку **<** на пульте дистанционного управления во время воспроизведения для изменения направления воспроизведения. Для возобновления обычного воспроизведения, отпустите кнопку **▶**.

Для отыскания эпизода во время контроля изображения (поиск изображения)

Держите нажатой кнопку **◀◀** или **▶▶** во время воспроизведения. Для восстановления обычного воспроизведения отпустите кнопку **▶**.

Для контроля изображения на высокой скорости во время ускоренной перемотки ленты вперед или назад (поиск методом прогона)

Держите нажатой кнопку **◀◀** или **▶▶** во время ускоренной перемотки ленты назад или кнопку **▶▶** во время ускоренной перемотки ленты вперед. Для возобновления обычной перемотки ленты вперед или назад отпустите кнопку **▶**.

Для просмотра воспроизведения изображения на замедленной скорости (замедленное воспроизведение)

Нажмите во время воспроизведения кнопку **■** на пульте дистанционного управления. Для замедленного воспроизведения в обратном направлении нажмите кнопку **<**, а затем нажмите кнопку **■** на пульте дистанционного управления. Для возобновления обычного воспроизведения нажмите кнопку **▶**.

Playing back a tape

To view the picture at double speed

Press **x2** on the Remote Commander during playback. For double speed playback in the reverse direction, press **<**, then press **x2** on the Remote Commander. To resume normal playback, press **▶**.

To view the picture frame-by-frame

Press **■** on the Remote Commander in the playback pause mode. For frame-by-frame playback in the reverse direction, press **<**. To resume normal playback, press **▶**.

To search the last scene recorded (END SEARCH)

Press END SEARCH in the stop mode. The last 5 seconds of the recorded section plays back and stops.

In the various playback modes

- Noise may appear when your camcorder plays back tapes recorded in the Hi8/standard 8 system.
- Sound is muted.
- The previous recording may appear as a mosaic image when playing back in the Digital8 **i** system.

Notes on the playback pause mode

- When the playback pause mode lasts for 3 minutes, your camcorder automatically enters the stop mode.
- To resume playback, press **▶**.
- The previous recording may appear.

Slow playback for tapes recorded in the Digital8 **i** system

The slow playback can be performed smoothly on your camcorder; however, this function does not work for an output signal from the **i** DV IN/OUT or **i** DV OUT jack.

When you play back a tape in reverse

Horizontal noise may appear at the center or top and bottom of the screen. This is not a malfunction.

Воспроизведение ленты

Для просмотра воспроизведения изображения на удвоенной скорости

Нажмите кнопку **x2** на пульте дистанционного управления во время воспроизведения. Для воспроизведения на удвоенной скорости в обратном направлении нажмите кнопку **<**, а затем кнопку **x2** на пульте дистанционного управления. Для возобновления обычного воспроизведения нажмите кнопку **▶**.

Для покадрового просмотра воспроизведения изображения

Нажмите кнопку **■** на пульте дистанционного управления в режиме паузы воспроизведения. Для покадрового воспроизведения в обратном направлении нажмите кнопку **<**. Для возобновления обычного воспроизведения нажмите кнопку **▶**.

Для поиска последнего записанного эпизода (END SEARCH)

Нажмите кнопку END SEARCH в режиме остановки. Будут воспроизведены последние 5 секунд записанного участка на ленте, после чего воспроизведение остановится.

В переменных режимах воспроизведения

- При воспроизведении на видеокамере лент Hi8/8 могут появиться помехи.
- Звук будет приглушен.
- При воспроизведении в цифровой системе Digital8 **i** изображение предыдущих записей может стать мозаичным.

Примечания по режиму паузы воспроизведения

- Если режим паузы воспроизведения продлится около 3 минут, Ваша видеокамера автоматически войдет в режим остановки. Для возобновления воспроизведения нажмите кнопку **▶**.
- Может появиться предыдущая запись.

Замедленное воспроизведение для лент, записанных в цифровой системе Digital8 **i**

Замедленное воспроизведение может выполняться на Вашей видеокамере без помех; однако эта функция не работает через выходной сигнал из гнезда **i** DV IN/OUT или гнезда **i** DV OUT.

При воспроизведении ленты в обратном направлении

На экране могут появиться горизонтальные помехи по центру или же сверху и внизу экрана. Это не является неисправностью.

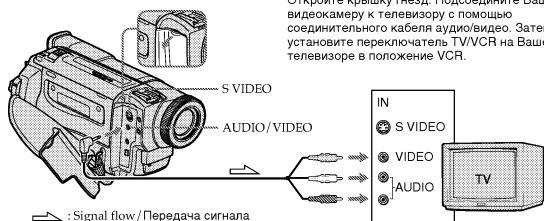
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Viewing the recording on TV

Connect your camcorder to your TV or VCR with the A/V connecting cable supplied with your camcorder to watch the playback picture on the TV screen. You can operate the playback control buttons in the same way as when you monitor playback pictures on the LCD screen. When monitoring the playback picture on the TV screen, we recommend that you power your camcorder from the mains using the AC power adaptor (p. 13). Refer to the operating instructions of your TV or VCR.

Open the jack cover. Connect your camcorder to the TV using the A/V connecting cable. Then, set the TV/VCR selector on the TV to VCR.



If your TV is already connected to a VCR

Connect your camcorder to the LINE IN input on the VCR by using the A/V connecting cable supplied with your camcorder. Set the input selector on the VCR to LINE.

If your TV or VCR is a monaural type

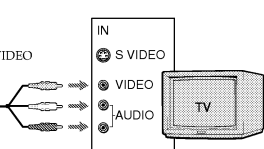
Connect the yellow plug of the A/V connecting cable to the video input jack and the white or the red plug to the audio input jack on the VCR or the TV. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

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Просмотр записи на экране телевизора

Подсоедините Вашу видеокамеру к Вашему телевизору или КВМ с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере для просмотра воспроизводимого изображения на экране телевизора. Вы можете оперировать кнопками управления воспроизведением таким же способом, как при управлении воспроизводимым изображением на экране ЖКД. При управлении воспроизводимым изображением на экране телевизора рекомендуется подключить питание к Вашей видеокамере от сетевой розетки с помощью сетевого адаптера переменного тока (стр. 13). См. инструкцию по эксплуатации Вашего телевизора или КВМ.

Откройте крышку гнезд. Подсоедините Вашу видеокамеру к телевизору с помощью соединительного кабеля аудио/видео. Затем, установите переключатель TV/VCR на Вашем телевизоре в положение VCR.



Если Ваш телевизор уже подсоединен к КВМ

Подсоедините Вашу видеокамеру к входному гнезду LINE IN на КВМ с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере. Установите селектор входного сигнала на КВМ в положение LINE.

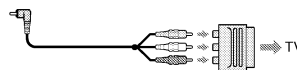
Если Ваш телевизор или КВМ монофонического типа

Подсоедините желтый штекер соединительного кабеля аудио/видео к входному гнезду видеосигнала и белый или красный штекер к входному гнезду аудиосигнала на КВМ или телевизоре. Если Вы подсоедините белый штекер, то будет звук L (левый) канал. Если Вы подсоедините красный штекер, то будет звук R (правый) канал.

Viewing the recording on TV

If your TV/VCR has a 21-pin connector (EUROCONNECTOR)

Use the 21-pin adaptor supplied with your camcorder.



If your TV or VCR has an S video jack

Connect using an S video cable (not supplied) to obtain high-quality pictures. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable. Connect an S video cable (not supplied) to the S video jacks on both your camcorder and the TV or the VCR.

Using the AV cordless IR receiver

Once you connect the AV cordless IR receiver (not supplied) to your TV or VCR, you can easily view the picture on your TV. For details, refer to the operating instructions of the AV cordless IR receiver.

Просмотр записи на экране телевизора

Если в Вашем телевизоре/КВМ имеется 21-штырьковый разъем (EUROCONNECTOR)

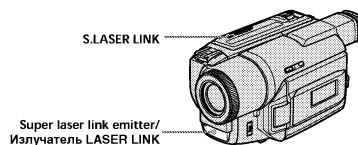
Используйте 21-штырьковый адаптер, прилагаемый к Вашей видеокамере.

Если в Вашем телевизоре имеется гнездо S видео

При данном соединении Вам не нужно подсоединять желтый штекер (видео) соединительного кабеля аудио/видео. Подсоедините кабель S видео (не прилагается) к гнездам S видео на Вашей видеокамере и Вашем телевизоре или КВМ.

Использование беспроводного ИК аудиовидеоприемника

После подсоединения беспроводного ИК аудиовидеоприемника к Вашему телевизору (не прилагается) Вы можете легко наблюдать изображение на экране Вашего телевизора. Подробные сведения содержатся в инструкции по эксплуатации беспроводного ИК аудиовидеоприемника.



Playback - Basics

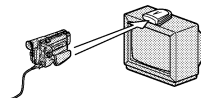
Воспроизведение - Основные положения

Viewing the recording on TV

Before operation

Attach the power supply such as the AC power adaptor to your camcorder, and insert the recorded tape.

- (1) After connecting your TV and AV cordless IR receiver, set the POWER switch on the AV cordless IR receiver to ON.
- (2) Turn the TV on and set the TV/VCR selector on the TV to VCR.
- (3) Set the POWER switch on your camcorder to VTR.
- (4) Press S.LASER LINK. The lamp of S.LASER LINK lights up.
- (5) Press ► on your camcorder to start playback.
- (6) Turn the super laser link emitter at the AV cordless IR receiver. Adjust the position of your camcorder and the AV cordless IR receiver to obtain clear playback pictures.



To cancel the super laser link function

Press S.LASER LINK. The lamp on the S.LASER LINK button goes out.

If you turn the power off

Super laser link function turns off automatically.

When super laser link is activated (the S.LASER LINK button is lit)

Your camcorder consumes power. Press S.LASER LINK to turn off the super laser link function when it is not needed.

▲ is a trademark of Sony Corporation.

Просмотр записи на экране телевизора

Перед эксплуатацией

Прикрепите источник питания, например, сетевой адаптер переменного тока, к Вашей видеокамере, и вставьте записанную ленту.

- (1) После подсоединения к Вашему телевизору беспроводного ИК аудиовидеоприемника установите переключатель POWER на беспроводном ИК аудиовидеоприемнике в положение ON.
- (2) Включите телевизор и установите селектор TV/VCR на телевизоре в положение VCR.
- (3) Установите переключатель POWER на Вашей видеокамере в положение VTR.
- (4) Нажмите кнопку S.LASER LINK. Высветится лампочка S.LASER LINK.
- (5) Нажмите кнопку ► на Вашей видеокамере для начала включения воспроизведения.
- (6) Направьте излучатель лазерного суперканала на беспроводный ИК аудиовидеоприемник. Отрегулируйте положение Вашей видеокамеры и беспроводного ИК аудиовидеоприемника для получения четкого воспроизводимого изображения.

Для отмены функции лазерного суперканала передачи сигналов

Нажмите кнопку S.LASER LINK. Лампочка на кнопке S.LASER LINK погаснет.

Если Вы выключите питание

Лазерный суперканал передачи сигналов выключится автоматически.

При включенном лазерном суперканале передачи сигналов (при этом высветывается кнопка S.LASER LINK)

Ваша видеокамера потребляет питание. Нажмите кнопку S.LASER LINK для выключения функции лазерного суперканала передачи сигналов, если она не требуется.

▲ является фирменным знаком Sony Corporation.

— Advanced Recording Operations — Recording a still image on a tape - Tape Photo recording

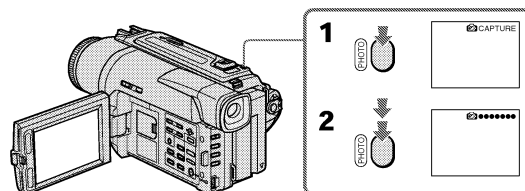
You can record a still image like a photograph. This mode is useful when you want to record a picture using a video printer (not supplied). You can record about 510 images in the SP mode and about 765 images in the LP mode on a tape which can record for 60 minutes in the SP mode. Besides the operation described here, your camcorder can record still images on the "Memory Stick" (p. 100).

- (1) In the standby mode, keep pressing PHOTO lightly until a still image appears. The CAPTURE indicator appears. Recording does not start yet.
To change the still image, release PHOTO, select a still image again, and then press and hold PHOTO lightly.
- (2) Press PHOTO deeper.
The still image on the LCD screen or in the viewfinder is recorded for about seven seconds. The sound during those seven seconds is also recorded.
The still image is displayed on the LCD screen or in the viewfinder until recording is completed.

— Усовершенствованные операции съемки — Запись неподвижного изображения на ленту - Фотосъемка на ленту

Вы можете записывать неподвижное изображение подобно фотографии. Данный режим полезен, если Вы хотите записывать изображение в виде фотоснимка или же при выполнении отпечатков с помощью видеоприемника (не прилагается). Вы можете записать около 510 изображений в режиме SP и около 765 изображений в режиме LP ленте, которая позволяет выполнять запись в течение 60 минут в режиме SP. Кроме описанной здесь операции, Ваша видеокамера может выполнить запись неподвижных изображений на "Memory Stick" (стр. 100).

- (1) В режиме ожидания держите слегка нажатой кнопку PHOTO до тех пор, пока не появится неподвижное изображение. Появится индикатор CAPTURE. Запись пока еще не началась.
Для изменения неподвижного изображения отпустите кнопку PHOTO, выберите неподвижное изображение снова, а затем нажмите и держите слегка нажатой кнопку PHOTO.
- (2) Нажмите кнопку PHOTO сильнее. Неподвижное изображение в видоискателе или на экране ЖКД будет записываться около семи секунд. В течение этих семи секунд будет записываться и звук.
Неподвижное изображение будет отображаться на экране ЖКД или в видоискателе тех пор, пока запись не будет завершена.



Advanced Recording Operations

Усовершенствованные операции съемки

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Recording a still image on a tape – Tape Photo recording

Notes

- During the tape photo recording, you cannot change the mode or setting.
- The PHOTO button does not work:
– while the digital effect function is set or in use.
– while the fader function is in use.
- When recording a still image, do not shake your camcorder. Mosaic-pattern noise may appear on the image.

To use the tape photo recording function using the Remote Commander
Press PHOTO in the Remote Commander. Your camcorder records an image on the LCD screen or in the viewfinder immediately.

When you use the tape photo recording function during normal CAMERA recording
You cannot check an image on the LCD screen or in the viewfinder by pressing PHOTO lightly. Press PHOTO deeper. The still image is then recorded for about seven seconds, and your camcorder returns to the standby mode. During the seven seconds to record, you cannot shoot another still image.

Запись неподвижного изображения на ленту – Фотосъемка на ленту

Примечания

- Во время фотосъемки на ленту Вы не можете изменять режим или установку.
- Кнопка PHOTO не работает:
– если установлена или используется функция цифрового эффекта.
– если используется функция фейдера.
- При записи неподвижного изображения не трясите Вашу видеокамеру. Иначе на изображении могут появиться помехи мозаичного типа.

Для использования функции фотосъемки на ленту с помощью пульта дистанционного управления
Нажмите кнопку PHOTO на пульте дистанционного управления. Ваша видеокамера тотчас же начнет запись изображения на экране ЖКД или в видоискателе.



При использовании функции фотосъемки на ленту во время обычной записи CAMERA

Вы не можете проверить изображение на экране ЖКД или в видоискателе, слегка нажав кнопку PHOTO. Нажмите кнопку PHOTO сильнее. Неподвижное изображение будет записываться около семи секунд, а затем видеокамера вернется в режим ожидания. В течение этих семи секунд записи Вы не можете выполнять съемку другого неподвижного изображения.

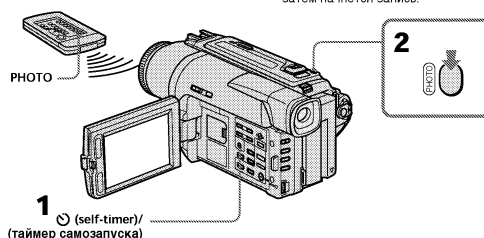
Recording a still image on a tape – Tape Photo recording

Self-timer tape photo recording



You can record still images on tapes with the self-timer. This mode is useful when you want to record yourself. You can also use the Remote Commander for this operation.

- (1) In the standby mode, press  (self-timer). The  (self-timer) indicator appears on the LCD screen or in the viewfinder.
- (2) Press PHOTO firmly.

Self-timer starts counting down from 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically.



To cancel self-timer recording

Press  (self-timer) so that the  indicator disappears from the LCD or viewfinder screen while your camcorder is in the standby mode. You cannot cancel self-timer recording with the Remote Commander.

Note

The self-timer recording mode is automatically canceled when:

- Self-timer recording is finished.
- The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

Запись неподвижного изображения на ленту – Фотосъемка на ленту



Съемка на ленту с помощью таймера самозапуска

Вы можете записывать неподвижные изображения на ленты с помощью таймера самозапуска. Этот режим является полезным, если Вы хотите выполнить съемку самого себя. Для этой операции Вы также можете использовать пульт дистанционного управления.

- (1) В режиме ожидания нажмите кнопку  (таймера самозапуска). На экране ЖКД или в видоискателе появится индикатор  (таймера самозапуска).
- (2) Нажмите кнопку PHOTO сильно.

Таймер самозапуска начнет обратный отсчет времени от 10 с зуммерным сигналом. В последние две секунды обратного отсчета времени, частота зуммерного сигнала будет быстрее, а затем начнется запись.

Для отмены записи по таймеру самозапуска

Нажмите кнопку  (таймера самозапуска), так чтобы индикатор  исчез экрана ЖКД или экрана видоискателя в то время, когда Ваша видеокамера находится в режиме ожидания. С помощью пульта дистанционного управления Вы не можете отменить запись по таймеру самозапуска.

Примечание

Режим записи по таймеру будет автоматически отменен, если:

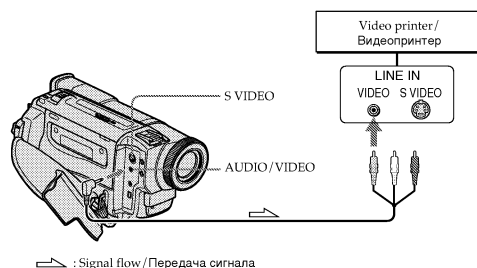
- Запись по таймеру самозапуска закончится.
- Переключатель POWER установлен в положение OFF (CHARGE), VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

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Recording a still image on a tape – Tape Photo recording

Printing the still image

You can print a still image by using the video printer (not supplied). Connect the video printer using the A/V connecting cable supplied with your camcorder. Connect the A/V connecting cable to the AUDIO/VIDEO jack and connect the yellow plug of the cable to the video input of the video printer. Refer to the operating instructions of the video printer as well.



If the video printer is equipped with S video input

Use the S video connecting cable (not supplied). Connect it to the S VIDEO jack and the S video input of the video printer.

Запись неподвижного изображения на ленту – Фотосъемка на ленту

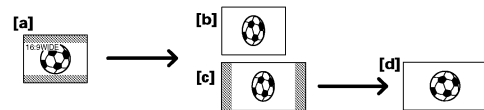
Печатавание неподвижного изображения

Вы можете выполнить печатавание неподвижного изображения с помощью видеопринтера (не прилагается). Подсоедините видеопринтер с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере. Подсоедините соединительный кабель аудио/видео к выходному гнезду AUDIO/VIDEO и подсоедините желтый штекер кабеля к входному гнезду видеосигнала на видеопринтере. Воспользуйтесь также инструкцией по эксплуатации видеопринтера.

Using the wide mode

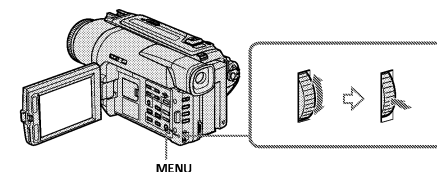
You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9 WIDE). Black bands appear on the LCD screen or in the viewfinder during recording in 16:9 WIDE mode.

[a] The picture during playing back on a normal TV [b] or a wide-screen TV [c] are compressed in the widthwise direction. If you set the screen mode of the wide-screen TV to the full mode, you can watch pictures of normal images [d].



In the standby mode, set 16:9WIDE to ON in the menu settings (p. 85).

В режиме ожидания установите команду 16:9WIDE в положение ON в установках меню (стр. 85).



To cancel the wide mode

Set 16:9WIDE to OFF in the menu settings.

In the wide mode, you cannot select the following functions:

- Old movie
- Bounce

During recording

You cannot select or cancel the wide mode. When you cancel the wide mode, set your camcorder to the standby mode and then set 16:9WIDE to OFF in the menu setting.

Для отмены широкоэкрannого режима
Установите команду 16:9WIDE в положение OFF в установках меню.

В широкоэкрannом режиме Вы не можете выбирать следующие функции:

- Старинное кино
- Перескакивание

Во время записи

Вы не можете выбрать или отменить широкоэкрannый режим. Если Вы отмените широкоэкрannый режим, установите Вашу видеокамеру в режим ожидания, а затем установите команду 16:9WIDE в положение OFF.

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Advanced Recording Operations

Усовершенствованные операции съемки

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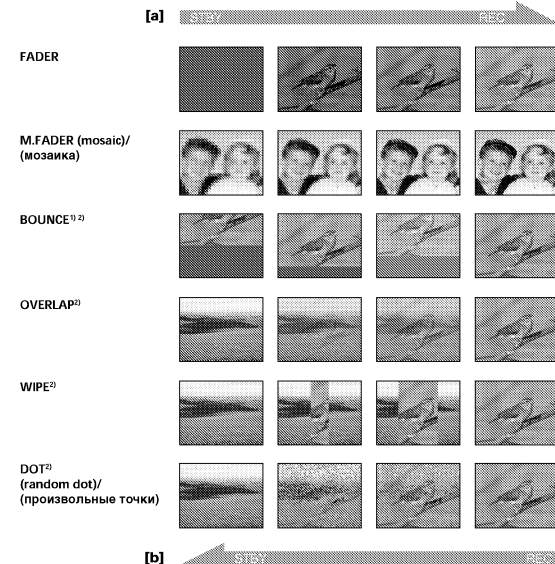
Advanced Viewing Operations

Усовершенствованные операции съемки

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Using the fader function

You can fade the picture in or out to give your recording a professional appearance.



MONOTONE

When fading in, the picture gradually changes from black-and-white to colour.
When fading out the picture gradually changes from colour to black-and-white.

¹⁾ You can use this function when D ZOOM is set to OFF in the menu settings.

²⁾ Fade in only

Использование функции фейдера

Вы можете выполнять плавное введение и выведение изображения, чтобы придать Вашей съемке профессиональный вид.

MONOTONE

При введении изображение будет постепенно изменяться от черно-белого до цветного.
При выведении изображение будет постепенно изменяться от цветного до черно-белого.

¹⁾ Вы можете использовать эту функцию только если команда D ZOOM установлена в положение OFF в установках меню.

²⁾ Только введение изображения

Using the fader function

(1) When fading in [a]

In the standby mode, press FADER until the desired fader indicator flashes.

When fading out [b]

In the recording mode, press FADER until the desired fader indicator flashes.

The indicator changes as follows:
FADER → M.FADER → BOUNCE → MONOTONE → OVERLAP → WIPE → DOT

The last selected fader mode is indicated first of all.

(2) Press START/STOP. The fader indicator stops flashing.

After the fade in/out is carried out, your camcorder automatically returns to the normal mode.

Использование функции фейдера

(1) При введении изображения [a]

В режиме ожидания, нажимайте кнопку FADER до тех пор, пока не начнет мигать нужный индикатор фейдера.

При выведении изображения [b]

В режиме записи, нажимайте кнопку FADER до тех пор, пока не начнет мигать нужный индикатор фейдера.

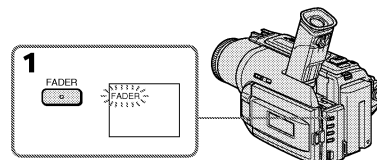
Индикатор будет изменяться следующим образом:

FADER → M.FADER → BOUNCE → MONOTONE → OVERLAP → WIPE → DOT

Последний из выбранных режимов фейдера отображается первым.

(2) Нажмите кнопку START/STOP. Индикатор фейдера перестанет мигать.

После того, как выполнено введение/выведение изображения, Ваша видеосъемка автоматически вернется в обычный режим.



To cancel the fader function

Before pressing START/STOP, press FADER until the indicator disappears.

Для отмены функции фейдера

Перед тем, как нажать кнопку START/STOP, нажимайте кнопку FADER до тех пор, пока не исчезнет индикатор.

Using the fader function

Notes

- The overlap, wipe and dot functions work only for tapes recorded in the Digital8 system.
- You cannot use the following functions while using the fader function. Also, you cannot use the fader function while using the following functions:
 - Digital effect
 - Low lux mode of PROGRAM AE (Overlap, wipe or dot function only)
 - Super NightShot
 - Tape photo recording

Before operating the overlap, wipe or dot function

Your camcorder stores the image on the tape. As the image is being stored, the indicator flashes quickly, and the image you are shooting disappears from the LCD or viewfinder screen. Depending on the tape condition, the image may not be recorded clearly.

While using the bounce function, you cannot use the following functions:

- Focus
- Zoom
- Picture effect

Note on the bounce function

The BOUNCE indicator does not appear in the following mode or functions:

- D ZOOM is activated in the menu settings
- Wide mode
- Picture effect
- PROGRAM AE

Использование функции фейдера

Примечания

- Функция наложения изображения работает только для лент, записанных в цифровой системе Digital8.
- Вы не можете использовать следующие функции во время использования функции фейдера. Также, Вы не можете использовать функцию фейдера во время использования следующих функций:
 - Цифровой эффект
 - Режим низкой освещенности PROGRAM AE (только функция наложения/вытеснения шторкой или точечного изображения)
 - Ночная суперсъемка
 - Фотосъемка

Если Вы не записывали ничего перед включением функции наложения изображения

Ваша видеосъемка хранит изображение на ленте. Во время сохранения изображения индикатор мигает быстро, а изображение, которое Вы снимаете, исчезнет с экрана ЖКД или экрана видеоскопателя. В зависимости от состояния ленты, изображение может быть записано нечетко.

Во время использования функции перескакивания Вы не можете использовать следующие функции:

- Фокусировка
- Трансфокация
- Эффект изображения

Примечание по функции перескакивания

Индикатор BOUNCE не появляется в следующих режимах или при использовании следующих функций:

- Команда D ZOOM приведена в действие в установках меню
- Широкоэкранный режим
- Эффект изображения
- PHOGNAM AE

Using special effects - Picture effect

You can digitally process images to obtain special effects like those in films or on the TV.

NEG. ART [a]

The colour and brightness of the image is reversed.

SEPIA :

The image is sepia.

B&W :

The image is monochrome (black-and-white).

SOLARIZE [b]

The light intensity is clearer, and the image looks like an illustration.

SLIM [c]

The image expands vertically.

STRETCH [d]

The image expands horizontally.

PASTEL [e]

The contrast of the image is emphasized, and the image looks like an animated cartoon.

MOSAIC [f]

The image is mosaic.

Использование специальных эффектов - Эффект изображения

Вы можете выполнять обработку изображения цифровым методом для получения специальных эффектов, как в кинофильмах или на экранах телевизоров.

NEG. ART [a]

Цвет и яркость изображения будут негативными.

SEPIA :

Изображение будет в цвете сепии.

B&W :

Изображение будет монохроматическим (черно-белым).

SOLARIZE [b]

Яркость света будет усиленной, а изображение будет выглядеть как иллюстрация.

SLIM [c]

Изображение растянется по вертикали.

STRETCH [d]

Изображение растянется по горизонтали.

PASTEL [e]

Подчеркивается контрастность изображения, которому придается мультипликационный вид.

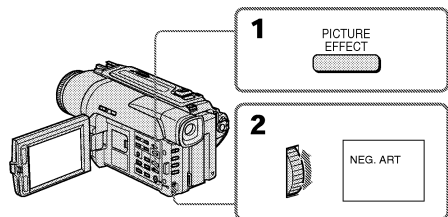
MOSAIC [f]

Изображение будет мозаичным.



Using special effects - Picture effect

- (1) Press PICTURE EFFECT in CAMERA mode. The picture effect indicator appears.
- (2) Turn the SEL/PUSH EXEC dial to select the desired picture effect mode.
The indicator changes as follows:
NEG.ART ↔ SEPIA ↔ B&W ↔
SOLARIZE ↔ SLIM ↔ STRETCH ↔
PASTEL ↔ MOSAIC



To turn the picture effect function off
Press PICTURE EFFECT.

While using the picture effect function
You cannot select OLD MOVIE with DIGITAL EFFECT.

When you turn the power off
The picture effect is automatically canceled.

Использование специальных эффектов - Эффект изображения

- (1) Нажмите кнопку PICTURE EFFECT в режиме CAMERA. Появится индикатор эффекта изображения.
- (2) Поверните диск SEL/PUSH EXEC для выбора режима нужного эффекта изображения. Индикатор будет изменяться следующим образом:
NEG.ART ↔ SEPIA ↔ B&W ↔
SOLARIZE ↔ SLIM ↔ STRETCH ↔
PASTEL ↔ MOSAIC

Для выключения функции эффекта изображения
Нажмите кнопку PICTURE EFFECT.

При использовании функции эффекта изображения
Вы не можете выбрать режим OLD MOVIE кино с помощью функции DIGITAL EFFECT.

Если Вы выключите питание
Ваша видеосъемка автоматически вернется в обычный режим.

Using special effects - Digital effect

You can add special effects to recorded images using the various digital functions. The sound is recorded normally.

STILL
You can record a still image so that it is superimposed on a moving image.

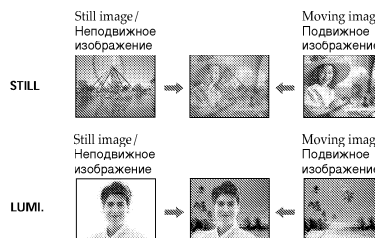
FLASH (FLASH MOTION)
You can record still images successively at constant intervals.

LUMI. (LUMINANCEKEY)
You can swap a brighter area in a still image with a moving image.

TRAIL
You can record the image so that an incidental image like a trail is left.

SLOW SHTR (SLOW SHUTTER)
You can slow down the shutter speed. The slow shutter mode is good for recording dark images more brightly. However, the image may be less clear.

OLD MOVIE
You can add an old movie type atmosphere to images. Your camcorder automatically sets the wide mode to ON, picture effect to SEPIA, and the appropriate shutter speed.



Использование специальных эффектов - Цифровой эффект

Вы можете добавлять специальные эффекты к записываемому изображению с помощью разных цифровых функций. Записываемый звук будет обычным.

STILL
Вы можете записывать неподвижное изображение, которое можно налагать на подвижное изображение.

FLASH (FLASH MOTION)
Вы можете записывать неподвижные изображения в последовательности через определенные интервалы.

LUMI. (LUMINANCEKEY)
Вы можете изменять яркие места на неподвижном изображении на подвижные изображения.

TRAIL
Вы можете записывать изображение с эффектом запаздывания.

SLOW SHTR (SLOW SHUTTER)
Вы можете замедлить скорость затвора. Режим медленного затвора является подходящим для записи темных изображений в более ярком свете. Однако, изображение может получиться менее четким.

OLD MOVIE
Вы можете привносить атмосферу старинного кино в изображения. Ваша видеосъемка будет автоматически устанавливать широкоэкранный режим в положение ON, эффект изображения в положение SEPIA, и выставлять соответствующую скорость затвора.

Using special effects - Digital effect

- (1) Press DIGITAL EFFECT in CAMERA mode. The digital effect indicator appears.
- (2) Turn the SEL/PUSH EXEC dial to select the desired digital effect mode.
The indicator changes as follows:
STILL ↔ FLASH ↔ LUMI. ↔ TRAIL ↔
SLOW SHTR ↔ OLD MOVIE
- (3) Press the SEL/PUSH EXEC dial. The indicator lights up and the bars appear. In the STILL and LUMI. modes, the still image is stored in memory.
- (4) Turn the SEL/PUSH EXEC dial to adjust the effect as follows:

STILL - The rate of the still image you want to superimpose on the moving image

FLASH - The interval of flash motion

LUMI. - The colour scheme of the area in the still image which is to be swapped with a moving image

TRAIL - The vanishing time of the incidental image

SLOW SHTR - Shutter speed. The larger the shutter speed number, the slower the shutter speed.

OLD MOVIE - No adjustment necessary

The more bars there are on screen, the stronger the digital effect. The bars appear in the following modes: STILL, FLASH, LUMI. and TRAIL.

Использование специальных эффектов - Цифровой эффект

- (1) Нажмите кнопку DIGITAL EFFECT в режиме CAMERA. Появится индикатор цифрового эффекта.
- (2) Поверните диск SEL/PUSH EXEC для выбора режима нужного цифрового эффекта. Индикатор будет изменяться следующим образом:
STILL ↔ FLASH ↔ LUMI. ↔ TRAIL ↔
SLOW SHTR ↔ OLD MOVIE
- (3) Нажмите диск SEL/PUSH EXEC. Высветится индикатор и появятся полосы. В режимах STILL и LUMI. неподвижное изображение будет сохранено в памяти.
- (4) Поверните диск SEL/PUSH EXEC для регулировки эффекта следующим образом:

STILL - Интенсивность неподвижного изображения, которое Вы хотите наложить на подвижное изображение

FLASH - Интервал прерывистого движения

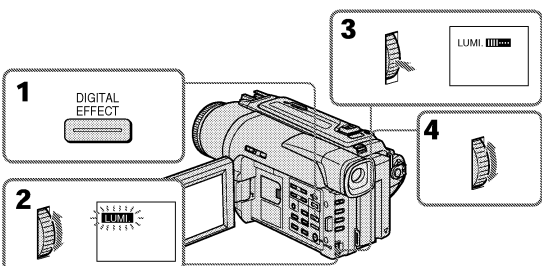
LUMI. - Цветовая гамма участка на неподвижном изображении, который будет заменен на подвижное изображение

TRAIL - Время исчезновения побочного изображения

SLOW SHTR - Скорость затвора. Чем больше величина скорости затвора, тем медленнее скорость затвора

OLD MOVIE - Не требуется никаких регулировок

Чем больше полос на экране, тем сильнее цифровой эффект. Полосы появляются в следующих режимах: STILL, FLASH, LUMI. и TRAIL.



Using special effects - Digital effect

To cancel the digital effect
Press DIGITAL EFFECT.

Notes
• The following functions do not work during digital effect:
- Fader
- Low lux mode of PROGRAM AE
- Tape photo recording
- Super NightShot

• The following functions do not work in the slow shutter mode:
- Exposure
- PROGRAM AE

• The following functions do not work in the old movie mode:
- Exposure
- Wide mode
- Picture effect
- PROGRAM AE

When you turn the power off
The digital effect is automatically canceled.

When recording in the slow shutter mode
Auto focus may not be effective. Focus manually using a tripod.

Shutter speed

Shutter speed number	Shutter speed
SLOW SHTR 1	1/25
SLOW SHTR 2	1/12
SLOW SHTR 3	1/6
SLOW SHTR 4	1/3

Использование специальных эффектов - Цифровой эффект

Для отмены цифрового эффекта
Нажмите кнопку DIGITAL EFFECT.

Примечания
• Следующие функции не работают при использовании цифрового эффекта:
- Фейдер
- Режим низкой освещенности PROGRAM AE
- Фотосъемка на ленту
- Ночная суперсъемка

• Следующие функции не работают в режиме медленного затвора:
- Экспозиция
- PROGRAM AE

• Следующие функции не работают в режиме старинного кино:
- Экспозиция
- Широкоэкранный режим
- Эффект изображения
- PROGRAM AE

При выключении питания
Цифровой эффект будет автоматически отменен.

При записи в режиме медленного затвора
Автоматическая фокусировка может быть не эффективной. Выполните фокусировку вручную, используя штатив.

Скорость затвора

Величина скорости затвора	Скорость затвора
SLOW SHTR1	1/25
SLOW SHTR2	1/12
SLOW SHTR3	1/6
SLOW SHTR4	1/3

Using the PROGRAM AE function

You can select PROGRAM AE (Auto Exposure) mode to suit your specific shooting requirements.

Spotlight mode

This mode prevents people's faces, for example, from appearing excessively white when shooting subjects lit by strong light in the theatre.

Soft portrait mode

This mode brings out the subject while creating a soft background for subjects such as people or flowers.

Sports lesson mode

This mode minimizes shake on fast-moving subjects such as in tennis or golf.

Beach & ski mode

This mode prevents people's faces from appearing dark in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

Sunset & moon mode

This mode allows you to maintain atmosphere when you are recording sunsets, general night views, fireworks displays and neon signs.

Landscape mode

This mode is for when you are recording distant subjects such as mountains and prevents your camcorder from focusing on glass or metal mesh in windows when you are recording a subject behind glass or a screen.

Low lux mode

This mode makes subjects brighter in insufficient light.



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Использование функции PROGRAM AE

Вы можете выбрать режим PROGRAM AE (автоматическая съемка) в соответствии со специфическими требованиями к съемке.

Режим прожекторного освещения

Данный режим предотвращает, к примеру, лица людей от появления в чрезмерно белом свете при выполнении съемки людей, освещенных сильным светом на свадебных церемониях или в театре.

Мягкий портретный режим

Этот режим позволяет выделить объект на фоне мягкого фона, и подходит для съемки, например, людей или цветов.

Режим спортивных состязаний

Этот режим позволяет минимизировать дрожание при съемке быстро движущихся предметов, например, при игре в теннис или гольф.

Пляжный и лыжный режим

Этот режим предотвращает появление темных лиц людей в зоне сильного света или отраженного света, например, на пляже в разгар лета или на снежном склоне.

Режим захода солнца и луны

Этот режим позволяет в точности отражать обстановку при съемке заходов солнца, общих ночных видов, фейерверков и неоновых реклам.

Ландшафтный режим

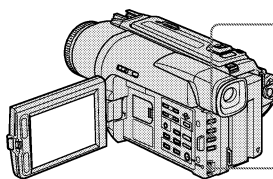
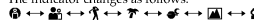
Этот режим позволяет выполнять съемку отдаленных объектов, таких как горы, например, и предотвращает фокусировку видеокамеры на стекло или металлическую решетку на окнах, когда Вы выполняете запись объектов позади стекла или решетки.

Режим низкой освещенности

Этот режим делает объекты ярче при недостаточном освещении.

Using the PROGRAM AE function

- Press PROGRAM AE in CAMERA or MEMORY mode. The PROGRAM AE indicator appears.
- Turn the SEL/PUSH EXEC dial to select the desired mode. The indicator changes as follows:



To turn the PROGRAM AE function off
Press PROGRAM AE.

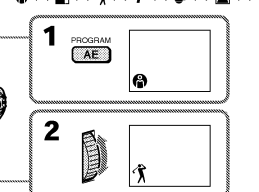
Notes

- In the spotlight, sports lesson and beach & ski modes, you cannot take close-ups. This is because your camcorder is set to focus only on subjects in the middle to far distance.
- In the sunset & moon and landscape modes, your camcorder is set to focus only on distant subjects.
- The following functions do not work in the PROGRAM AE mode:
 - Slow shutter
 - Old movie
 - Bounce
- The following functions do not work in the low lux mode:
 - Digital effect
 - Overlap
 - Wipe
 - Dot
 - Exposure
- While setting the NIGHTSHOT to ON, the PROGRAM AE function does not work. (The indicator flashes.)
- While shooting in MEMORY mode, the low lux mode does not work. (The indicator flashes.)

If you are recording under a discharge tube such as a fluorescent lamp, sodium lamp or mercury lamp
Flickering or changes in colour may occur in the following modes. If this happens, turn the PROGRAM AE function off:
– Soft portrait mode
– Sports lesson mode

Использование функции PROGRAM AE

- Нажмите кнопку PROGRAM AE в режиме CAMERA или MEMORY. Появится индикатор PROGRAM AE.
- Поверните диск SEL/PUSH EXEC для выбора нужного режима. Индикатор будет изменяться следующим образом:



Для выключения функции PROGRAM AE
Нажмите кнопку PROGRAM AE.

Примечания

- В режимах прожекторного освещения, спортивных состязаний, а также в пляжном и лыжном режиме Вы можете выполнять съемку крупным планом. Это объясняется тем, что Ваша видеокамера настроена для фокусировки только на объекты, находящиеся на среднем и дальнем расстоянии.
- В режиме захода солнца и луны, а также в ландшафтном режиме Ваша видеокамера настроена на фокусировку только на дальние объекты.
- Следующие функции не работают в режиме PROGRAM AE:
 - Медленный затвор
 - Старинное кино
 - Терескашивание
- Следующие функции не работают в режиме низкой освещенности:
 - Цифровой эффект
 - Наложение изображения
 - Ночная съемка
 - Точечное изображение
 - Экспозиция
- Во время установки команды NIGHTSHOT в положение ON, функция PROGRAM AE не работает. (Индикатор будет мигать.)
- Во время съемки в режиме MEMORY, режим низкой освещенности не работает. (Индикатор будет мигать.)

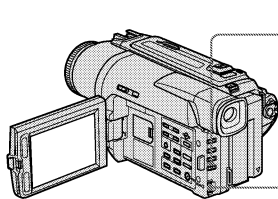
Если Вы выполняете запись при использовании газоразрядной лампы, натриевой лампы или ртутной лампы
В следующих режимах может возникнуть мерцание или неустойчивые процессы. Если это произойдет, выключите функцию PROGRAM AE.
– Мягкий портретный режим
– Режим спортивных состязаний

Adjusting the exposure manually

You can manually adjust and set the exposure. Adjust the exposure manually in the following cases:

- The subject is backlit
- Bright subject and dark background
- To record dark pictures (e.g. night scenes) faithfully

- Press EXPOSURE in CAMERA or MEMORY mode. The exposure indicator appears on the LCD screen or in the viewfinder.
- Turn the SEL/PUSH EXEC dial to adjust the brightness.



To return to the automatic exposure mode
Press EXPOSURE.

Notes

- When you adjust the exposure manually, the following function and modes do not work in CAMERA mode:
 - Backlight
 - Old movie
 - Slow shutter
- When you adjust the exposure manually, the backlight function does not work in MEMORY mode.

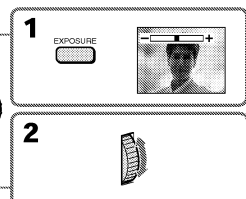
Your camcorder automatically returns to the automatic mode:
– if you change the PROGRAM AE mode
– if you slide NIGHTSHOT to ON

Регулировка экспозиции вручную

Вы можете отрегулировать и установить экспозицию вручную. Отрегулируйте экспозицию вручную в следующих случаях:

- Объект на фоне задней подсветки
- Яркий объект на темном фоне
- Для записи темных изображений (например, ночных сцен) с большой достоверностью

- Нажмите кнопку EXPOSURE в режиме CAMERA или MEMORY. На экране ЖКД или в видоискателе появится индикатор экспозиции.
- Поверните диск SEL/PUSH EXEC для регулировки яркости.



Для возврата в режим автоматической экспозиции
Нажмите кнопку EXPOSURE.

Примечания

- При выполнении регулировки экспозиции вручную, следующие функции и режимы не работают в режиме CAMERA:
 - Задняя подсветка
 - Старинное кино
 - Медленный затвор
- При выполнении регулировки экспозиции вручную, функция задней подсветки не работает в режиме MEMORY.

Ваша видеокамера автоматически вернется в режим автоматической экспозиции:
– если Вы измените режим PROGRAM AE
– если Вы передвинете переключатель NIGHTSHOT в положение ON

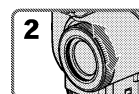
Focusing manually

You can gain better results by manually adjusting the focus in the following cases:

- The autofocus mode is not effective when shooting:
 - subjects through glass coated with water droplets,
 - horizontal stripes,
 - subjects with little contrast with backgrounds such as walls and sky.
- When you want to change the focus from a subject in the foreground to a subject in the background.
- Shooting a stationary subject when using a tripod.



- Set FOCUS to MANUAL in CAMERA or MEMORY mode. The FOCUS indicator appears on the LCD screen or in the viewfinder.
- Turn the focus ring to sharpen focus.



To return to the autofocus mode
Set FOCUS to AUTO.

To record distant subjects

When you press FOCUS down to INFINITY. The lens focuses on infinity and the infinity indicator appears. When you release FOCUS, your camcorder returns to the manual focus mode. Use this mode when your camcorder focuses on near objects even though you are trying to shoot a distant object.

Фокусировка вручную

Вы можете получить лучшие результаты путем регулировки вручную в следующих случаях:

- Режим автоматической фокусировки является неэффективным при выполнении съемки:
 - объектов через покрытое каплями стекло,
 - горизонтальных полос,
 - объектов с малой контрастностью на таком фоне, как стена или небо.
- Если Вы хотите выполнить изменение фокусировки с объекта на переднем плане на объект на заднем плане.
- При выполнении съемки стационарных объектов с использованием штатива.



- Установите переключатель FOCUS в положение MANUAL в режиме CAMERA или MEMORY. На экране ЖКД или в видоискателе появится индикатор FOCUS.
- Поверните кольцо фокусировки для получения четкой фокусировки.

Для возвращения в режим фокусировки
Установите переключатель FOCUS в положение AUTO.

Для съемки удаленных объектов
Если Вы нажмете вниз кнопку FOCUS в положение INFINITY. Объектив выполнит фокусировку на бесконечность, и появится индикатор infinity. Если Вы отпустите кнопку FOCUS, Ваша видеокамера вернется в режим ручной фокусировки. Используйте этот режим, если Ваша видеокамера выполняет фокусировку на ближние объекты, даже если Вы пытаетесь выполнить съемку удаленного объекта.

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Focusing manually

To focus precisely

Adjust the zoom by first focusing at the "T" (telephoto) position and then shooting at the "W" (wide-angle) position. This makes focusing easier.

When you shoot close to the subject

Focus at the end of the "W" (wide-angle) position.

changes to the following indicators:

- ▲ when recording a distant subject.
- ▲ when the subject is too close to focus on.

Фокусировка вручную

Для точной фокусировки

Отрегулируйте объектив, сначала выполнив фокусировку в положении "Т" (телефото), а затем выполнив съемку в положении "W" (широкого угла охвата). Это упростит фокусировку.

При выполнении съемки вблизи объекта

Выполните фокусировку в конце положения "W" (широкого угла охвата).

Индикация изменится на следующие индикаторы:

- ▲ при записи удаленного объекта.
- ▲ если объект находится слишком близко, чтобы выполнить фокусировку на него.

Superimposing a title

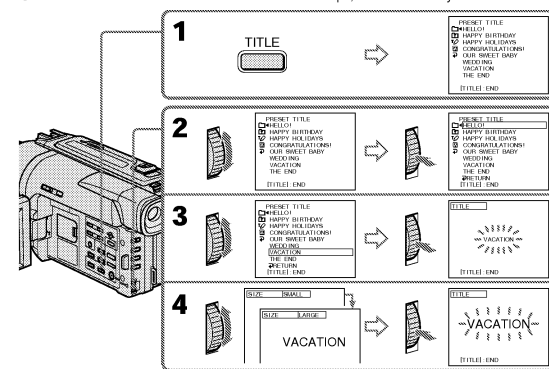
You can select one of eight preset titles and two custom titles (p. 61). You can also select the language, colour, size and position of titles.

Наложение титра

Вы можете выбрать один из восьми предварительно установленных титров и двух собственных титров (стр. 61). Вы можете также выбрать язык, цвет, размер и положение титров



- Press TITLE to display the title menu in the standby mode.
 - Turn the SEL/PUSH EXEC dial to select then press the dial.
 - Turn the SEL/PUSH EXEC dial to select the desired title, then press the dial. The titles are displayed in the language you selected.
 - Change the colour, size, or position, if necessary.
 - Turn the SEL/PUSH EXEC dial to select the colour, size, or position, then press the dial. The item appears.
 - Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial.
 - Repeat steps ① and ② until the title is laid out as desired.
 - Press the SEL/PUSH EXEC dial again to complete the setting.
 - Press START/STOP to start recording.
 - When you want to stop recording the title, press TITLE.
- Нажмите кнопку TITLE для отображения меню титров в режиме ожидания.
 - Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
 - Поверните диск SEL/PUSH EXEC для выбора нужного титра, а затем нажмите диск. Титры будут отображаться на выбранном Вами языке.
 - Измените цвет, размер или положение титра, если нужно.
 - Поверните диск SEL/PUSH EXEC для выбора цвета, размера или положения титра, а затем нажмите диск.
 - Поверните диск SEL/PUSH EXEC для выбора нужного пункта, а затем нажмите диск.
 - Повторяйте пункты ① и ② до тех пор, пока титр не будет расположен так, как нужно.
 - Нажмите диск SEL/PUSH EXEC для завершения установки.
 - Нажмите кнопку START/STOP для начала записи.
 - Если Вы захотите остановить запись титра, нажмите кнопку TITLE.



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Superimposing a title

To superimpose the title while you are recording

Press TITLE while you are recording, and carry out steps 2 to 5. When you press the SEL/PUSH EXEC dial at step 5, the title is recorded.

To select the language of a preset title

If you want to change the language, select before step 2. Then select the desired language and return to step 2.

If you display the menu while superimposing a title

The title is not recorded while the menu is displayed.

To use the custom title

If you want to use the custom title, select in step 2.

If you have not made any custom title, "----" appears on the display.

Title setting

- The title colour changes as follows : WHITE ↔ YELLOW ↔ VIOLET ↔ RED ↔ CYAN ↔ GREEN ↔ BLUE
- The title size changes as follows : SMALL ↔ LARGE
- You cannot input more than 12 characters in LARGE size.
- The title position changes as follows : 1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 7 ↔ 8 ↔ 9
- The larger the position number, the lower the title is positioned.
- When you select the title size LARGE, you cannot choose position 9.

When you are selecting and setting the title

You cannot record the title displayed on the screen.

When you superimpose a title while you are recording

The beep does not sound.

While you are playing back

You can superimpose a title. However, the title is not recorded on tape.

You can record a title when you dub the tape connecting your camcorder with the VCR with the A/V connecting cable. If you use the iLINK cable instead of the A/V connecting cable, you cannot record the title.

Наложение титра

Для наложения титра во время записи

Нажмите кнопку TITLE во время записи и выполните действия пунктов 2-5. Если Вы нажмете диск SEL/PUSH EXEC в пункте 5, титр будет записан.

Для выбора языка предварительно установленного титра

Если Вы хотите изменить язык, выберите индикацию перед пунктом 2. Затем выберите нужный язык и вернитесь к пункту 2.

В случае отображения меню во время наложения титра

Титр не будет записываться во время отображения меню.

Для использования собственного титра

Если Вы хотите использовать собственный титр, выберите установку в пункте 2. Если Вы не сделали никакого собственного титра, на дисплее появится индикация "----".

Установка титра

Цвет титра изменяется следующим образом:

WHITE (белый) ↔ YELLOW (желтый) ↔ VIOLET (фиолетовый) ↔ RED (красный) ↔ CYAN (голубой) ↔ GREEN (зеленый) ↔ BLUE (синий)

Размер титра изменяется следующим образом:

SMALL (маленький) ↔ LARGE (большой)

Вы не можете ввести более 12 символов для размера титра LARGE.

Позиция титра изменяется следующим образом:

1 ↔ 2 ↔ 3 ↔ 4 ↔ 5 ↔ 6 ↔ 7 ↔ 8 ↔ 9

Чем выше номер позиции титра, тем ниже расположен титр.

Если Вы выберете размер титра LARGE, Вы не сможете выбрать положение 9.

При выборе и установке титра

Вы не можете записать титр, отображаемый на экране.

При наложении титра во время записи

Зумерный сигнал не будет звучать.

Во время воспроизведения

Вы можете наложить титр. Однако титр не будет записан на ленту.

Вы можете записать титр при перезаписи ленты, подсоединив Вашу видеокамеру к KVM с помощью соединительного кабеля аудио/видео. Если Вы используете кабель iLINK вместо соединительного кабеля аудио/видео, Вы не можете записать титры.

Making your own titles

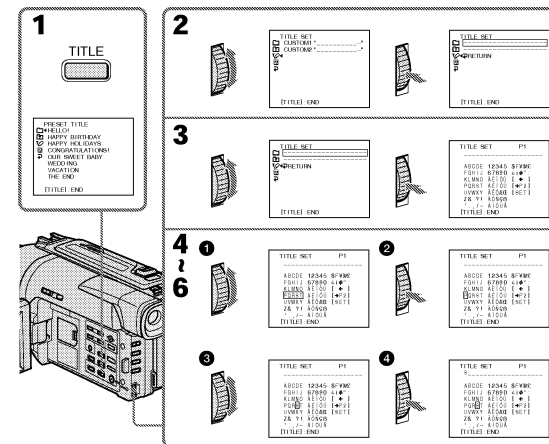
You can make up to two titles and store them in your camcorder. Each title can have up to 20 characters.

- Press TITLE in the standby, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode.
- Turn the SEL/PUSH EXEC dial to select , then press the dial.
- Turn the SEL/PUSH EXEC dial to select the first line (CUSTOM1) or second line (CUSTOM2), then press the dial.
- Turn the SEL/PUSH EXEC dial to select the column of the desired character, then press the dial.
- Turn the SEL/PUSH EXEC dial to select the desired character, then press the dial.
- Repeat steps 4 and 5 until you have selected all characters and completed the title.
- To finish making your own titles, turn the SEL/PUSH EXEC dial to select [SET], then press the dial. The title is stored in memory.
- Press TITLE to make the title menu disappear.

Создание Ваших собственных титров

Вы можете составить до двух титров и сохранить их в памяти Вашей видеокамеры. Каждый титр может содержать до 20 символов.

- Нажмите кнопку TITLE в режиме ожидания, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
- Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора первой строки (CUSTOM1) или второй строки (CUSTOM2), а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора колонки с нужным символом, а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора нужного символа, а затем нажмите диск.
- Повторяйте пункты 4 и 5 до тех пор, пока Вы не выберете все символы и полностью не составите титр.
- Для завершения составления своих собственных титров поверните диск SEL/PUSH EXEC для выбора команды [SET], а затем нажмите диск. Титр будет сохранен в памяти.
- Нажмите кнопку TITLE, чтобы исчезло меню титров.



Advanced Recording Operations

Усовершенствованные операции съемки

Advanced Recording Operations

Усовершенствованные операции съемки

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Making your own titles

To change a title you have stored

In step 3, select CUSTOM1 or CUSTOM2, depending on which title you want to change, then press the SEL/PUSH EXEC dial. Turn the SEL/PUSH EXEC dial to select [F], then press the dial to delete the title. The last character is erased. Enter the new title as desired.

If you take 3 minutes or longer to enter characters in the standby mode while a cassette is in your camcorder

The power automatically goes off. The characters you have entered remain stored in memory. Set the POWER switch to OFF (CHARGE) once, and turn it to CAMERA again, then proceed from step 1.

We recommend setting the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E) or removing the cassette so that your camcorder does not automatically turn off while you are entering title characters.

If you select [P2]

The menu for selecting alphabet and Russian characters appear. Select [P1] to return to the previous screen.

To erase a character

Select [F]. The last character is erased.

To enter a space

Select [Z& ?], then select the blank part.

Создание Ваших собственных титров

Для изменения сохраненного в памяти титра

В пункте 3 выберите установку CUSTOM1 или CUSTOM2, в зависимости от титра, который Вы хотите изменить, а затем нажмите диск SEL/PUSH EXEC. Поверните диск SEL/PUSH EXEC для выбора установки [F], а затем нажмите диск для удаления титра. Последний символ будет стерт. Введите новый нужный титр.

Если Вы вводите символы 3 минуты или более в режиме ожидания в то время, когда кассета находится в Вашей видеокамере

Питание выключится автоматически. Символы, которые Вы ввели, сохранятся в памяти видеокамеры. Установите сначала переключатель POWER в положение OFF (CHARGE), а затем снова в положение CAMERA, а затем начните с пункта 1. Рекомендуется установить переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/ TRV520E) или вынуть кассету, чтобы Ваша видеокамера автоматически не выключалась во время ввода символов титра.

Если Вы выбрали установку [P2]

Появится меню для выбора алфавита и русских символов. Для возврата к прежнему экрану выберите установку [P1].

Для удаления титра

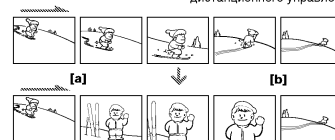
Выберите установку [F]. Последний символ будет стерт.

Для ввода интервала

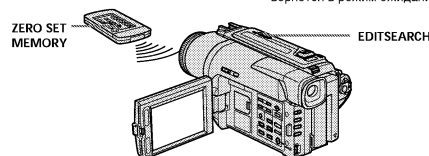
Выберите знак [Z& ?], а затем выберите пустую ячейку.

Inserting a scene

You can insert a scene in the middle of a recorded tape by setting the start and end points. The previously recorded frames between these start and end points will be erased. Use the Remote Commander for this operation.



- (1) While your camcorder is in the standby mode, keep pressing EDITSEARCH, and release the button at the insert end point [b].
- (2) Press ZERO SET MEMORY. The ZERO SET MEMORY indicator flashes and the counter resets to zero.
- (3) Keep pressing the [B] side of EDITSEARCH and release the button at the insert start point [a].
- (4) Press START/STOP to start recording. The scene is inserted. Recording stops automatically near the counter zero point. Your camcorder returns to the standby mode.



Notes

- The zero set memory function works only for tapes recorded in the Digital8 system.
- The picture and the sound may be distorted at the end of the inserted section when it is played back.

If a tape has a blank portion in the recorded portions

The zero set memory function may not work correctly.

Вставка эпизода

Вы можете вставить эпизод в середине записанной ленты путем установки точек начала и окончания. Предыдущие записанные кадры между этими точками начала и окончания будут стерты. Вы можете выполнить это, используя пульт дистанционного управления.

- (1) В режиме ожидания видеокамеры, держите нажатой кнопку EDITSEARCH и отпустите кнопку в точке окончания эпизода [b].
- (2) Нажмите кнопку ZERO SET MEMORY. Начнет мигать индикатор ZERO SET MEMORY, а счетчик ленты будет установлен в нулевое положение.
- (3) Держите нажатой сторону [B] кнопки EDITSEARCH и отпустите кнопку в точке начала эпизода [a].
- (4) Нажмите кнопку START/STOP для начала записи. Эпизод вставлен. Запись остановится автоматически в нулевой точке счетчика. Ваша видеокамера вернется в режим ожидания.

Примечания

- Функция памяти нуля не работает для лент, записанных в цифровой системе Digital8.
- Изображение и звук могут быть искажены в конце вставленного эпизода при воспроизведении.

Если на ленте имеется незаписанный участок

Функция памяти нуля может не работать надлежащим образом.

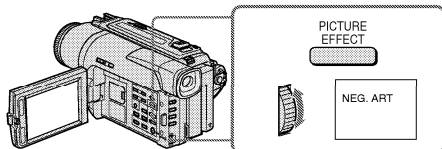
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— Advanced Playback Operations —

Playing back a tape with picture effects

During playback, you can process a scene using the picture effect functions: NEG, ART, SEPIA, B&W and SOLARIZE.

During playback, press PICTURE EFFECT and turn the SEL/PUSH EXEC dial until the desired picture effect indicator (NEG, ART, SEPIA, B&W or SOLARIZE) appears. For details of each picture effect function, see page 49.



To cancel the picture effect function

Press PICTURE EFFECT.

Notes

- The picture effect function works only for tapes recorded in the Digital8 system.
- You cannot process externally input scenes using the picture effect function.
- You cannot record pictures that you have processed using the picture effect function, record the pictures on the VCR using your camcorder as a player.

Pictures processed by the picture effect function

Pictures processed by the picture effect function are not output through the DV IN/OUT or DV OUT jack.

When you set the POWER switch to OFF (CHARGE) or stop playing back The picture effect function is automatically canceled.

— Усовершенствованные операции воспроизведения —

Воспроизведение ленты с эффектами изображения

Во время воспроизведения, Вы можете видоизменить изображение с помощью функций: NEG, ART, SEPIA, B&W и SOLARIZE.

Во время воспроизведения, нажмите кнопку PICTURE EFFECT и поворачивайте диск SEL/PUSH EXEC до тех пор, пока не начнет мигать индикатор нужного цифрового (NEG, ART, SEPIA, B&W и SOLARIZE). Подробные сведения по каждой функции цифровых эффектов приведены на стр. 49.

Для отмены функции цифровых эффектов

Нажмите кнопку PICTURE EFFECT.

Примечания

- Функция эффектов изображения работает только для лент, записанных в цифровой системе Digital8.
- Вы не можете видоизменять изображения от KBM или телевизора с помощью функции эффектов изображения.
- Вы не можете записывать обработанные изображения с помощью функции эффектов изображения на данной видеокамере. Для записи изображения с использованием эффектов изображения, запишите изображения на KBM, используя Вашу видеокамеру в качестве плеера.

Изображения, обработанные с помощью функции эффектов изображения

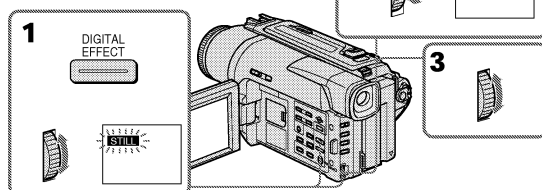
Изображения, обработанные с помощью функции эффектов изображения, не передаются через гнездо DV IN/OUT или DV OUT.

Если Вы установили переключатель POWER в положение OFF (CHARGE) или остановили воспроизведение Функция эффектов изображения будет автоматически отменена.

Playing back a tape with digital effects

During playback, you can process a scene using the digital effect functions: STILL, FLASH, LUMI, and TRAIL.

- (1) During playback, press DIGITAL EFFECT and turn the SEL/PUSH EXEC dial until the desired digital effect indicator (STILL, FLASH, LUMI, or TRAIL) flashes.
- (2) Press the SEL/PUSH EXEC dial. The digital effect indicator lights up and the bars appear. In the STILL or LUMI mode, the image where you press the SEL/PUSH EXEC dial is stored in memory as a still image.
- (3) Turn the SEL/PUSH EXEC dial to adjust the effect. For details of each digital effect function, see page 51.



To cancel the digital effect function

Press DIGITAL EFFECT.

Notes

- The digital effect function works only for tapes recorded in the Digital8 system.
- You cannot process externally input scenes using the digital effect function.
- You cannot record images that you have processed using the digital effect function with this camcorder. To record images that you have processed using the digital effect function, record the images on the VCR using your camcorder as a player.

Pictures processed by the digital effect function

Pictures processed by the digital effect function are not output through the DV IN/OUT or DV OUT jack.

When you set the POWER switch to OFF (CHARGE) or stop playing back The digital effect function is automatically canceled.

Воспроизведение ленты с цифровыми эффектами

Во время воспроизведения, Вы можете видоизменять изображение с помощью функций: STILL, FLASH, LUMI, и TRAIL.

- (1) Во время воспроизведения, нажмите кнопку DIGITAL EFFECT и поворачивайте диск SEL/PUSH EXEC до тех пор, пока не начнет мигать индикатор нужного цифрового эффекта (STILL, FLASH, LUMI, или TRAIL).
- (2) Нажмите диск SEL/PUSH EXEC. Высветится индикатор цифрового эффекта и появятся полосы. В режиме STILL или LUMI: изображение, на котором Вы нажали диск SEL/PUSH EXEC, будет занесено в память как неподвижное изображение.
- (3) Поверните диск SEL/PUSH EXEC для регулировки эффекта изображения. Подробные сведения по каждой функции цифровых эффектов приведены на стр. 51.

Для отмены функции цифровых эффектов

Нажмите кнопку DIGITAL EFFECT.

Примечания

- Функция цифровых эффектов работает только для лент, записанных в цифровой системе Digital8.
- Вы не можете видоизменять изображения от KBM или телевизора с помощью функции цифровых эффектов.
- Вы не можете записывать обработанные изображения с помощью функции цифровых эффектов на данной видеокамере. Для записи изображения с цифровыми эффектами, запишите изображения на KBM, используя Вашу видеокамеру в качестве плеера.

Изображения, обработанные с помощью функции цифровых эффектов Изображения, обработанные с помощью функции цифровых эффектов, не передаются через гнездо DV IN/OUT или DV OUT.

Если Вы установили переключатель POWER в положение OFF (CHARGE) или остановили воспроизведение Функция цифровых эффектов будет автоматически отменена.

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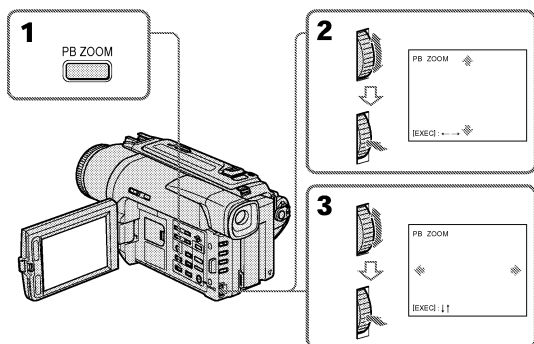
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Enlarging recorded images – PB ZOOM

You can enlarge moving and still images recorded on tapes.

Besides the operation described here, your camcorder can enlarge still images recorded on "Memory Stick".

- (1) Press PB ZOOM on your camcorder while you are playing back. The image is enlarged, and \uparrow appears on the LCD screen or in the viewfinder.
- (2) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.
 - \uparrow : The image moves downwards.
 - \downarrow : The image moves upwards.
 - \leftarrow : becomes available.
- (3) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.
 - \leftarrow : The image moves rightward. (Turn the dial downwards.)
 - \rightarrow : The image moves leftward. (Turn the dial upwards.)



To cancel PB ZOOM function
Press PB ZOOM.

Увеличение записанных изображений – PB ZOOM

Вы можете увеличивать движущиеся и неподвижные изображения, записанные на ленты.

Помимо операций, описанных в данном руководстве, Ваша видеокамера позволяет увеличивать неподвижные изображения, записанные на "Memory Stick".

- (1) Нажмите кнопку PB ZOOM на Вашей видеокамере во время воспроизведения. Изображение увеличится, а на экране ЖКД или в видоискателе появится индикация \uparrow .
- (2) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.
 - \uparrow : Изображение перемещается вниз.
 - \downarrow : Изображение перемещается вверх.
 - \leftarrow : появится на дисплее.
- (3) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.
 - \leftarrow : Изображение перемещается вправо (поверните диск вниз.)
 - \rightarrow : Изображение перемещается влево (поверните диск вверх.)

Для отмены функции PB ZOOM
Нажмите кнопку PB ZOOM.

Enlarging recorded images – PB ZOOM

Notes

- PB ZOOM works only for tapes recorded in the Digital8 system.
- You cannot process externally input scenes using PB ZOOM function.
- You cannot record pictures that you have processed using PB ZOOM function with this camcorder. To record pictures that you have processed using PB ZOOM function, record the pictures on the VCR using your camcorder as a player.

Pictures processed by PB ZOOM function

Pictures processed by PB ZOOM function are not output through the $\frac{1}{4}$ DV IN/OUT or $\frac{1}{4}$ DV OUT jack.

When you set the POWER switch to OFF (CHARGE) or stop playing back
PB ZOOM function is automatically canceled.

Увеличение записанных изображений – PB ZOOM

Примечания

- Функция PB ZOOM работает только для лент, записанных в системе Digital8.
- Вы не можете обрабатывать введенные с внешней аппаратуры изображения с помощью функции PB ZOOM.
- Вы не можете записывать изображения, обработанные с помощью функции PB ZOOM, на данной видеокамере. Для записи изображений, обработанных с помощью функции PB ZOOM, запишите изображения на КВМ с помощью видеокамеры, используя ее в качестве плеера.

Изображения, обработанные с помощью функции PB ZOOM

Изображения, обработанные с помощью функции PB ZOOM, не передаются через гнездо $\frac{1}{4}$ DV IN/OUT или $\frac{1}{4}$ DV OUT.

Если Вы установите переключатель POWER в положение OFF (CHARGE) или остановите воспроизведение
Функция PB ZOOM будет автоматически отменена.

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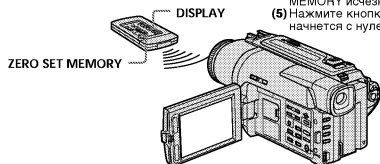
Quickly locating a scene using the zero set memory function

Your camcorder goes forward or backward to automatically stop at a desired scene having a counter value of "00:00:00".

Use the Remote Commander for this operation.

Use this function, for example, to view a desired scene later on during playback.

- (1) In the playback mode, press DISPLAY.
- (2) Press ZERO SET MEMORY at the point you want to locate later. The counter shows "00:00:00" and the ZERO SET MEMORY indicator flashes.
- (3) Press \blacksquare when you want to stop playback.
- (4) Press \leftarrow to rewind the tape to the counter's zero point. The tape stops automatically when the counter reaches approximately zero. The ZERO SET MEMORY indicator disappears and the time code appears.
- (5) Press \blacktriangleright . Playback starts from the counter's zero point.



Notes

- The zero set memory function works only for tapes recorded in the Digital8 system.
- When you press ZERO SET MEMORY before rewinding the tape, the zero set memory function is canceled.
- There may be a discrepancy of several seconds from the time code.

If a tape has a blank portion in the recorded portions
The zero set memory function may not correctly.

ZERO SET MEMORY functions also in the standby mode

When you insert a scene in the middle of a recorded tape, press ZERO SET MEMORY at the point you want to end the insertion. Rewind the tape to the insert start point, and start recording. Recording stops automatically at the tape counter zero point. Your camcorder returns to the standby mode.

Быстрое отыскание эпизода с помощью функции памяти нулевой отметки

Ваша видеокамера выполнит продвижение вперед или назад с автоматической остановкой в нужном эпизоде, где показание счетчика равно "00:00:00".

Вы можете выполнять это с помощью пульта дистанционного управления.

Используйте эту функцию, например, для просмотра нужного эпизода позже во время воспроизведения.

- (1) В режиме воспроизведения нажмите кнопку DISPLAY.
- (2) Нажмите кнопку ZERO SET MEMORY в месте, которое Вы захотите найти позже. Показание счетчика станет равным "00:00:00", и начнет мигать индикатор ZERO SET MEMORY.
- (3) Нажмите кнопку \blacksquare , если Вы захотите остановить воспроизведение.
- (4) Нажмите кнопку \leftarrow для ускоренной перемотки ленты назад к нулевой точке отсчета. Лента остановится автоматически, если счетчик достигнет нулевой отметки. Индикатор ZERO SET MEMORY исчезнет, и появится код времени.
- (5) Нажмите кнопку \blacktriangleright . Воспроизведение начнется с нулевой отметки счетчика.

Примечания

- Функция памяти нулевой отметки работает только для лент, записанных в цифровой системе Digital8.
- Если Вы нажмете кнопку ZERO SET MEMORY до начала обратной перемотки ленты, то функция памяти нулевой отметки будет отменена.
- Может быть расхождение в несколько секунд между кодом времени и действительным временем.

Если на ленте имеется незаписанный участок между записанными изображениями
Функция памяти нулевой отметки может не работать надлежащим образом.

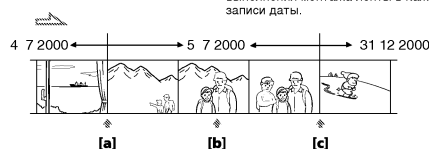
Функция ZERO SET MEMORY также работает в режиме ожидания

Если Вы хотите вставить эпизод в середине записанной ленты, нажмите кнопку ZERO SET MEMORY в том месте, где вы хотите закончить вставку. Перемотайте ленту к месту начала вставки и начните запись. Запись автоматически остановится в месте нулевой отметки счетчика ленты. Ваша видеокамера вернется в режим ожидания.

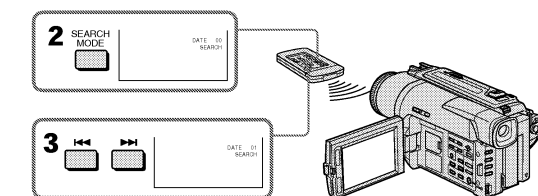
Searching a recording by date – Date search

You can automatically search for the point where the recording date changes and start playback from that point (Date search). Use the Remote Commander for this operation.

Use this function to check where recording dates change or to edit the tape at each recording date.



- (1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
- (2) Press SEARCH MODE on the Remote Commander repeatedly, until the date search indicator appears.
The indicator changes as follows:
DATE SEARCH \rightarrow PHOTO SEARCH \rightarrow PHOTO SCAN
- (3) When the current position is [b], press \leftarrow to search towards [a] or press \blacktriangleright to search towards [c]. Your camcorder automatically starts playback at the point where the date changes.
Each time you press \leftarrow or \blacktriangleright , the camcorder searches for the previous or next date.



To stop searching
Press \blacksquare .

Поиск записи по дате – Поиск даты

Вы можете выполнять автоматический поиск места, где изменяется дата записи и начинать воспроизведение с этого места (поиск даты). Используйте пульт дистанционного управления для таких операций.

Используйте эту функцию для проверки, где изменяются даты записи, или же для выполнения монтажа ленты в каждом месте записи даты.

- (1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
- (2) Нажмите повторно кнопку SEARCH MODE на пульте дистанционного управления до тех пор, пока не появится индикатор поиска даты.
Индикатор будет изменяться следующим образом: DATE SEARCH \rightarrow PHOTO SEARCH \rightarrow PHOTO SCAN
- (3) Если текущее положение соответствует варианту [b], нажмите кнопку \leftarrow для выполнения поиска в направлении [a] или нажмите кнопку \blacktriangleright для выполнения поиска в направлении [c]. Ваша видеокамера автоматически начнет воспроизведение в месте, где изменяется дата.
Всякий раз при нажатии кнопки \leftarrow или \blacktriangleright , видеокамера будет выполнять поиск предыдущей или следующей даты.

Для остановки поиска
Нажмите кнопку \blacksquare .

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Searching a recording by date - Date search

Notes

- The date search works only for tapes recorded in the Digital8 system.
- If one day's recording is less than two minutes, your camcorder may not accurately find the point where the recording date changes.

If a tape has a blank portion in the recorded portions

The date search function may not work correctly.

Поиск записи по дате - Поиск даты

Примечания

- Режим поиска даты функционирует только для лент, записанных в цифровой системе Digital8.
- Если в какой-либо из дней Ваша запись продолжалась менее одной минуты, Ваша видеокамера может точно не найти место, где изменяется дата записи.

Если на записанной ленте имеются незаписанные участки
Функция поиска даты будет работать неправильно.

Searching for a photo - Photo search/ Photo scan

You can search for the still image recorded on tape (photo search). You can also search for still image one after another and display each image for five seconds automatically (photo scan). Use the Remote Commander for these operations.

Searching for a photo

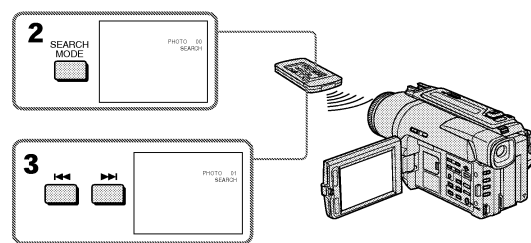
- Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
- Press SEARCH MODE on the Remote Commander repeatedly, until the photo search indicator appears. The indicator changes as follows: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN.
- Press **◀▶** or **▶▶** to select the photo for playback. Each time you press **◀▶** or **▶▶**, the camcorder searches for the previous or next photo. Your camcorder automatically starts playback from the photo.

Поиск фото - Фотопоиск/ Фотосканирование

Вы можете выполнять поиск изображений записанного на ленту (фотопоиск). Вы также можете выполнять поиск неподвижных изображений одно за другим и отображать каждое изображение пять секунд автоматически (фотосканирование). Используйте пульт дистанционного управления для этих операций.

Поиск фото

- Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
- Нажимайте повторно на пульт дистанционного управления кнопку SEARCH MODE до тех пор, пока не появится индикатор фотопоиска. Индикатор будет изменяться следующим образом: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN.
- Нажмите кнопку **◀▶** или **▶▶**, чтобы выбрать фото для воспроизведения. Каждый раз при нажатии **◀▶** или **▶▶** видеокамера начинает поиск предыдущего или следующего эпизода. Ваша видеокамера автоматически начнет воспроизведение с этого фото.



To stop searching
Press **■**.

Для остановки поиска
Нажмите кнопку **■**.

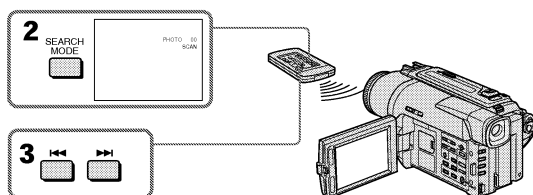
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Searching for a photo - Photo search/Photo scan

Scanning photo

- Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
- Press SEARCH MODE on the Remote Commander repeatedly, until the photo scan indicator appears. The indicator changes as follows: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN.
- Press **◀▶** or **▶▶**. Each photo is played back for about 5 seconds automatically.



To stop scanning
Press **■**.

Note

The photo search and photo scan work only for tapes recorded in the Digital8 system.

If a tape has a blank portion in the recorded portions
The photo search and photo scan function may not work correctly.

Поиск фото – Фотопоиск/ Фотосканирование

Сканирование фото

- Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
- Нажимайте повторно на пульт дистанционного управления кнопку SEARCH MODE до тех пор, пока не появится индикатор фотосканирования. Индикатор будет изменяться следующим образом: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN.
- Нажмите кнопку **◀▶** или **▶▶**. Каждое фото будет автоматически отображаться примерно 5 секунд.

Для остановки сканирования
Нажмите кнопку **■**.

Примечание

Фотопоиск и фотосканирование функционируют только для лент, записанных в цифровой системе Digital8.

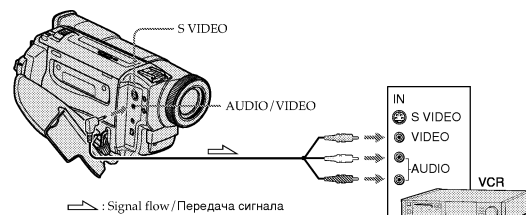
Если на записанной ленте имеются незаписанные участки
Функция фотопоиска и фотосканирования может работать неправильно.

Editing

Dubbing a tape

Using the A/V connecting cable
Connect your camcorder to the VCR using the A/V connecting cable supplied with your camcorder.

- Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
- Set the input selector on the VCR to LINE. Refer to the operating instructions of your VCR for more information.
- Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
- Play back the recorded tape on your camcorder.
- Start recording on the VCR. Refer to the operating instructions of your VCR for more information.



When you have finished dubbing a tape
Press **■** on both your camcorder and the VCR.

Монтаж

Перезапись ленты

Использование соединительного кабеля аудио/видео

Подсоедините Вашу видеокамеру к KBM с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере.

- Вставьте незаписанную ленту (или ленту, на которую Вы хотите выполнить запись) в KBM и вставьте записанную ленту в Вашу видеокамеру.
- Установите селектор входного на KBM в положение LINE. Более подробные сведения Вы сможете найти в инструкции по эксплуатации Вашего KBM.
- Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
- Начните воспроизведение записанной ленты на Вашей видеокамере.
- Начните запись на Вашем KBM. Более подробные сведения Вы сможете найти в инструкции по эксплуатации Вашего KBM.

Если Вы закончили перезапись ленты
Нажмите кнопку **■** как на видеокамере, так и на KBM.

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Using with analog video unit and PC – Signal convert function

After capturing images and sound

Stop capturing procedures on your PC, and stop the playback on the analog video unit.

Notes

- You need to install software which can exchange video signals.
- Depending on the condition of the analog video signals, the PC may not be able to output the images correctly when you convert analog video signals into digital video signals via your camcorder.
- Depending on the analog video unit, the image may contain noise or incorrect colours.
- You cannot record or capture the video output via your camcorder when the video includes copyright protection signals such as ID-2 system.

Использование с аналоговым видеоаппаратом и персональным компьютером – Функция преобразования сигналов

После записи изображений и звука

Остановите процедуру записи на Вашем персональном компьютере и остановите воспроизведение на аналоговом видеоаппарате.

Примечания

- Вам нужно установить программное обеспечение, позволяющее выполнять обмен видеосигналов.
- В зависимости от состояния аналоговых видеосигналов, персональный компьютер может не передавать изображения надлежащим образом при преобразовании аналоговых видеосигналов в цифровые видеосигналы с помощью Вашей видеокамеры.
- В зависимости от аналогового видеоаппарата, изображение может содержать помехи или искаженные цвета.
- Вы не можете выполнять запись или съемку выходных видеосигналов с помощью Вашей видеокамеры, если видеосигнал содержит сигналы защиты авторских прав, такие, как систему ID-2.

Recording video or TV programmes

– DCR-TRV620E only

Using the A/V connecting cable

- You can record a tape from another VCR or a TV programme from a TV that has video/audio outputs. Use your camcorder as a recorder.
- Insert a blank tape (or a tape you want to record over) into the VCR, insert a recorded tape into the VCR.
 - Set the POWER switch to VTR.
 - Set DISPLAY to LCD in the menu settings (p. 85).
 - Press **●** REC and the button on its right simultaneously on your camcorder, then immediately press **II** on your camcorder.
 - Press **▶** on the VCR to start playback if you are recording a tape from VCR. Select a TV programme if you are recording from TV. The picture from a TV or VCR appears on the LCD screen or in the viewfinder.
 - Press **II** on your camcorder at the scene where you want to start recording from.

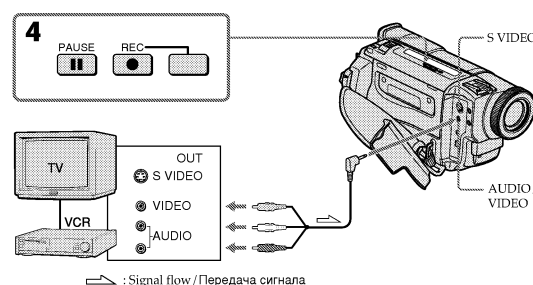
Запись видео или телевизионных программ

– Только DCR-TRV620E

Использование соединительного кабеля аудио/видео

Вы можете записать ленту с другого KBM или телевизионной программы с телевизора, в котором имеются выходы видео/аудио. Используйте Вашу видеокамеру в качестве магнитофона.

- Вставьте незаписанную ленту (или ленту, на которую Вы хотите выполнить перезапись) в Вашу видеокамеру. Если Вы записываете ленту с KBM, вставьте записанную ленту в KBM.
- Установите переключатель POWER в положение VTR.
- Установите опцию DISPLAY в положение LCD в установках меню (стр. 85).
- Нажмите кнопку **●** REC и кнопку справа от нее одновременно на Вашей видеокамере, а затем тотчас же нажмите кнопку **II** на Вашей видеокамере.
- Нажмите кнопку **▶** на KBM для начала воспроизведения, если Вы записываете ленту с KBM. Выберите телевизионную программу, если Вы записываете программу с телевизора. Изображение от телевизора или KBM появится на экране ЖКД или в видоискателе.
- Нажмите кнопку **II** на Вашей видеокамере в том месте, где Вы хотите начать запись.



When you have finished dubbing a tape
Press **II** on both your camcorder and the VCR.

Если Вы закончили перезапись на ленту
Нажмите кнопку **II** на видеокамере и на KBM.

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Recording video or TV programmes

Notes

- To enable smooth transition, we recommend that you do not mix pictures recorded in the Hi8/standard 8 with the Digital8 system on a tape.
- If you fast-forward or slow-playback on the other equipment, the image being recorded may fluctuate. When recording from other equipment, be sure to play back the original tape at normal speed.

If your VCR is a monaural type

Connect the yellow plug of the A/V connecting cable to the video output jack and the white or the red plug to the audio output jack on the VCR or the TV. When the white plug is connected, the left channel audio is output, and the red plug is connected, the right channel audio is output.

If your TV or VCR has an S video jack

Connect using an S video cable (not supplied) to obtain high-quality pictures.

With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.

Connect an S video cable (not supplied) to the S video jacks of both your camcorder and the TV or VCR.

Запись видео или телевизионных программ

Примечания

- Для обеспечения плавного перехода рекомендуется не смешивать изображения, записанные в системе Hi8/стандартной системе 8 с цифровой системой Digital8 на ленту.
- В случае ускоренного или замедленного воспроизведения на другом аппарате записанное изображение может подрагивать. При записи с другого аппарата Вам следует воспроизводить оригинальную запись на нормальной скорости.

Если Ваш KBM монофонического типа

Подсоедините желтый штекер соединительного кабеля аудио/видео к выходному видеогнезду, а белый или красный штекер к выходному аудиогнезду на KBM или телевизоре. Если подсоединен белый штекер, то выходной сигнал будет передаваться через левый канал, а если подсоединен красный штекер, то выходной сигнал будет передаваться через правый канал.

Если в Вашем телевизоре или KBM имеется гнездо S видео

Выполните подсоединение с помощью кабеля S видео (не прилагается) для получения высококачественных изображений. При данном подсоединении Вам не нужно подсоединять желтый (видео) штекер соединительного кабеля аудио/видео. Подсоедините кабель S видео (не прилагается) к гнездам S видео на видеокамере телевизоре или KBM.

Recording video or TV programmes

– DCR-TRV620E only

Using the i.LINK cable (DV connecting cable)

Simply connect the i.LINK cable (DV connecting cable) (not supplied) to DV IN/OUT and to DV IN/OUT of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing.

- Insert a blank tape (or a tape you want to record over) into your camcorder, and insert the recorded tape into the VCR.
- Set the POWER switch to VTR.
- Set DISPLAY to LCD in the menu settings (p. 85).
- Press **●** REC and the button on its right simultaneously on your camcorder, then immediately press **II** on your camcorder.
- Press **▶** on the VCR to start playback. The picture from a TV or VCR appears on the LCD screen or in the viewfinder.
- Press **II** on your camcorder at the scene where you want to start recording from.

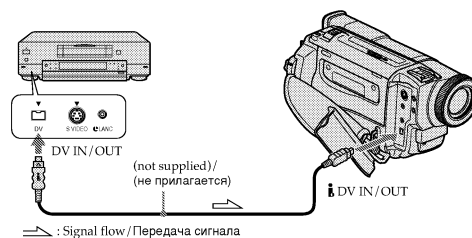
Запись видео или телевизионных программ

– Только DCR-TRV620E

Использование кабеля i.LINK (соединительного кабеля цифрового видеосигнала DV)

Просто подсоедините кабель i.LINK (соединительный кабель цифрового видеосигнала DV) (не прилагается) к гнезду DV IN/OUT или DV OUT и к гнезду DV IN/OUT цифровых видеозаписей. При цифровом подсоединении видео- и аудиосигналы передаются в цифровой форме для высококачественного монтажа.

- Вставьте незаписанную ленту (или ленту, на которую Вы хотите выполнить перезапись) в Вашу видеокамеру и вставьте ленту для записи в KBM.
- Установите переключатель POWER в положение VTR.
- Установите опцию DISPLAY в положение LCD в установках меню (стр. 85).
- Нажмите кнопку **●** REC и кнопку справа от нее одновременно на Вашей видеокамере, а затем тотчас же нажмите кнопку **II** на Вашей видеокамере.
- Нажмите кнопку **▶** на KBM для начала воспроизведения. Изображение от телевизора или KBM появится на экране ЖКД или в видоискателе.
- Нажмите кнопку **II** на Вашей видеокамере в том месте, где Вы хотите начать запись.



When you have finished dubbing a tape
Press **II** on both your camcorder and the VCR.

Если Вы закончили перезапись на ленту
Нажмите кнопку **II** на видеокамере и на KBM.

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Recording video or TV programmes

You can connect one VCR only using the i.LINK cable (DV connecting cable).

During digital editing

The colour of the display may be uneven. However this does not affect the dubbed picture.

If you record playback pause picture with the DV IN/OUT jack

The recorded picture becomes rough. And when you play back the picture using your camcorder, the picture may jitter.

Before recording

Make sure if the DV IN indicator appears on the LCD screen or in the viewfinder by pressing DISPLAY. The DV IN indicator may appear on both equipment.

Запись видео или телевизионных программ

Вы можете подсоединить один KBM только с помощью кабеля i.LINK (соединительный кабель DV).

Во время цифрового монтажа

Цвет дисплея может быть неравномерным. Однако это не влияет на перезаписываемое изображение.

При записи изображения в режиме паузы воспроизведения через гнездо DV IN/OUT
Записанное изображение станет искаженным. А если Вы воспроизведете изображение с помощью Вашей видеокамеры, изображение может подрагивать.

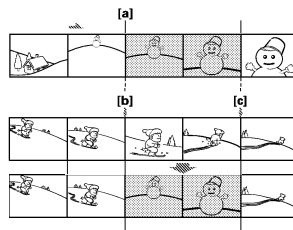
Перед записью

Убедитесь, что индикатор DV IN появился на экране ЖКД или в видоскопике при нажатии кнопки DISPLAY. Индикатор DV IN может появиться на обоих аппаратах.

Inserting a scene from a VCR – Insert Editing

– DCR-TRV620E only

You can insert a new scene from a VCR onto your originally recorded tape by specifying the insert start and end points. Use the Remote Commander for this operation. Connections are the same as in "Recording video or TV programmes" on page 79, 81. Insert a cassette containing the desired scene to insert into the VCR.



Вставка эпизода с KBM – Монтаж вставок

– Только DCR-TRV620E

Вы можете вставить новый эпизод с KBM на Вашу первоначально записанную ленту, указав точки начала и конца вставки. Для этой операции используйте пульт дистанционного управления. Подсоединения являются такими же, как и в разделе "Запись видео или телевизионных программ" на стр. 79, 81. Вставьте кассету, на которой содержится нужный эпизод для вставки в KBM.

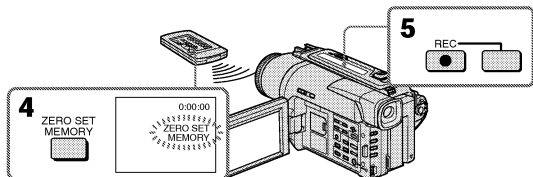
Editing
Монтаж

Inserting a scene from a VCR – Insert Editing

- (1) Set the POWER switch to VTR.
 - (2) On the VCR, locate just before the insert start point [a], then press II to set the VCR to the playback pause mode.
 - (3) On your camcorder, locate the insert end point [c] by pressing ◀▶ or ▶▶. Then press II to set it to the playback pause mode.
 - (4) Press ZERO SET MEMORY on the Remote Commander. The ZERO SET MEMORY indicator flashes and the end point of the insert is stored in memory.
 - (5) On your camcorder, locate the insert start point [b] by pressing ◀▶, then press ● REC and the button on its right simultaneously to set your camcorder to the recording pause mode.
 - (6) First press II on the VCR, and after a few seconds press II on your camcorder to start inserting the new scene.
- Inserting automatically stops near the zero point on the counter. Your camcorder automatically stops. The end point [c] of the insert stored in memory is canceled.

Вставка эпизода с KBM – Монтаж вставок

- (1) Установите переключатель POWER в положение VTR.
- (2) На KBM, найдите место как раз перед точкой начала вставки [a], затем нажмите кнопку II для установки KBM в режим паузы воспроизведения.
- (3) На Вашей видеокамере, найдите точку конца вставки [c], нажав кнопку ◀▶ или ▶▶. Затем нажмите кнопку II для установки Вашей видеокамеры в режим паузы воспроизведения.
- (4) Нажмите кнопку ZERO SET MEMORY на пульт дистанционного управления. Нанесет мигать индикатор ZERO SET MEMORY, а точка конца вставки будет сохранена в памяти.
- (5) На Вашей видеокамере, найдите точку начала вставки [b], нажав кнопку ◀▶, затем одновременно нажмите кнопку ● REC и кнопку справа для установки Вашей видеокамеры в режим паузы записи.
- (6) Сначала нажмите кнопку II на KBM, а через несколько секунд нажмите кнопку II на Вашей видеокамере для начала вставки нового эпизода. Вставка автоматически остановится возле нулевой точки на счетчике. Ваша видеокамера автоматически остановится. Точка конца вставки [c], сохраненная в памяти, будет аннулирована.



To change the insert end point

Press ZERO SET MEMORY again after step 5 to erase the ZERO SET MEMORY indicator and begin from step 3.

Notes

- The zero set memory function works only for tapes recorded in the Digital8 system.
- The picture and sound recorded on the section between the insert start and end points will be erased when you insert the new scene.

When the inserted picture is played back

The picture may be distorted at the end of the inserted section. This is not a malfunction.

To insert a scene without setting the insert end point

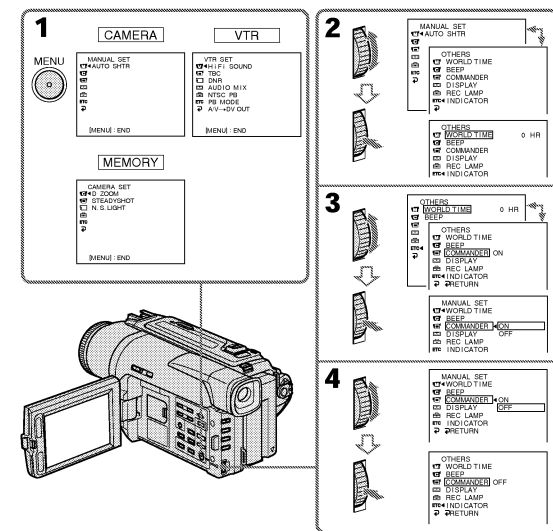
Skip step 3 and 4. Press ■ when you want to stop inserting.

– Customizing Your Camcorder – Changing the menu settings

To change the mode settings in the menu settings, select the menu items with the SEL/PUSH EXEC dial. The default settings can be partially changed. First, select the icon, then the menu item and then the mode.

- (1) In CAMERA, VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) or MEMORY mode, press MENU.
- (2) Turn the SEL/PUSH EXEC dial to select the desired icon, then press the dial to set.
- (3) Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial to set.
- (4) Turn the SEL/PUSH EXEC dial to select the desired mode, and press the dial to set.
- (5) If you want to change other items, select RETURN and press the dial, then repeat steps from 2 to 4.

For details, see "Selecting the mode setting of each item" (p. 86).



– Выполнение индивидуальных установок на видеокамере – Изменение установок меню

Для изменения установок режима в установках меню выберите пункты меню с помощью диска SEL/PUSH EXEC. Установки по умолчанию можно частично изменить. Сначала выберите пиктограмму, затем пункт меню, а затем режим.

- (1) В режиме CAMERA, VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) или MEMORY нажмите кнопку MENU.
- (2) Поверните диск SEL/PUSH EXEC для выбора нужной пиктограммы, а затем нажмите диск для выполнения установки.
- (3) Поверните диск SEL/PUSH EXEC для выбора нужной пиктограммы, а затем нажмите диск для выполнения установки.
- (4) Поверните диск SEL/PUSH EXEC для выбора нужной пиктограммы, а затем нажмите диск для выполнения установки.
- (5) Если Вы хотите изменить другие пункты, выберите команду RETURN, а затем нажмите диск, после чего повторите действия пунктов 2-4.

Подробные сведения приведены в разделе "Выбор установок режима по каждому пункту" (стр. 86).

Customizing Your Camcorder
Выполнение индивидуальных установок на видеокамере

Changing the menu settings

To make the menu display disappear

Press MENU.

Menu items are displayed as the following icons:

- MANUAL SET
- CAMERA SET
- VTR SET (DCR-TRV620E)
- PLAYER SET (DCR-TRV420E/TRV520E)
- LCD / VF SET
- MEMORY SET
- TAPE SET
- SETUP MENU
- OTHERS

English

Selecting the mode setting of each item ● is the default setting.

Menu items differ according to the position of the POWER switch. The LCD screen and the viewfinder show only the items you can operate at the moment.

Icon/item	Mode	Meaning	POWER switch
AUTO SHTR	● ON	To automatically activate the electronic shutter when shooting in bright conditions	CAMERA
	OFF	To not automatically activate the electronic shutter even when shooting in bright conditions	
D ZOOM	● OFF	To deactivate digital zoom. Up to 25× zoom is carried out.	CAMERA MEMORY
	50×	To activate digital zoom. More than 25× to 50× zoom is performed digitally. (p. 24)	
	100<*	To activate digital zoom. More than 25× to 100× zoom is performed digitally. (p. 24)	
16:9WIDE	● OFF	—	CAMERA
	ON	To record a 16:9 wide picture (p. 45)	
STEADYSHOT	● ON	To compensate for camera-shake	CAMERA MEMORY
	OFF	To cancel the SteadyShot function. Natural pictures are produced when shooting a stationary object with a tripod.	
N.S. LIGHT	● ON	To use the NightShot Light function (p. 28)	CAMERA MEMORY
	OFF	To cancel the NightShot Light function	

* 125× (DCR-TRV420E only)

Notes on the SteadyShot function

- The SteadyShot function will not correct excessive camera-shake.
- Attachment of a conversion lens (not supplied) may influence the SteadyShot function.

If you cancel the SteadyShot function

The SteadyShot off indicator appears. Your camcorder prevents excessive compensation for camera-shake.

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Изменение установок меню





Для того, чтобы исчезла индикация меню

Нажмите кнопку MENU.

Пункты меню отображаются в виде приведенных ниже пиктограмм:

- MANUAL SET
- CAMERA SET
- VTR SET (модель DCR-TRV620E)
- PLAYER SET (модель DCR-TRV420E/520E)
- LCD/VF SET
- MEMORY SET
- TAPE SET
- SETUP MENU
- OTHERS

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
HIFI SOUND	● STEREO	To play back a stereo tape or dual sound track tape with main and sub sound	VTR/PLAYER
	1	To play back a stereo tape with the left sound or a dual sound track tape with main sound	
	2	To play back a stereo tape with the right sound or a dual sound track tape with sub sound	
TBC*	● ON	To correct jitter	VTR/PLAYER
	OFF	To not correct jitter Set TBC to OFF when playing back a tape on which you have dubbed over and recorded the signal of a TV game or similar machine.	
TBC stands for "Time Base Corrector".			
DNR*	● ON	To reduce picture noise	VTR/PLAYER
	OFF	To reduce a conspicuous afterimage when the picture has a lot of movement	
DNR stands for "Digital Noise Reduction".			
AUDIO MIX	—	To adjust the balance between the stereo 1 and stereo 2 	VTR/PLAYER
NTSC PB	● ON PAL TV	To playback a tape recorded on your camcorder on a PAL system TV	VTR/PLAYER
	NTSC 4.43	To playback a tape recorded in the NTSC colour system on a TV with the NTSC 4.43 mode	
PB MODE	● AUTO	To automatically select the system (Hi8/standard 8 or Digital8 ) that was used to record on the tape, and play back the tape	VTR/PLAYER
	 	To play back a tape that was recorded in the Hi8/standard 8 system when your camcorder does not automatically distinguish the recording system	
A/V → DV OUT (DCR-TRV620E only)	● OFF	To convert digital video signals into analog video signals via your camcorder	VTR
	ON	To convert analog video signals into digital video signals via your camcorder "A/V → DV" appears on the LCD screen or in the viewfinder. (p. 77)	

* When you play back tapes recorded in the Hi8/standard 8 system only.

Notes on AUDIO MIX

- When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance.
- You can adjust the balance only for tapes recorded in the Digital8 system.

Note on NTSC PB

When you play back a tape on a Multi System TV, select the best mode while viewing the picture on the TV.

Note on PB MODE

The mode will return to the default setting when:

- you remove the battery pack or power source.
- you turn the POWER switch.

Customizing Your Camcorder
Выполнение индивидуальных установок на видеослосере

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
LCD B. L.	● BRT NORMAL	To set the brightness on the LCD screen normal	VTR/PLAYER CAMERA CAMERA MEMORY
	BRIGHT	To brighten the LCD screen	
LCD COLOUR	—	To adjust the colour on the LCD screen, turning the SEL / PUSH EXEC dial to adjust the following bar	VTR/PLAYER CAMERA CAMERA MEMORY
	—		
VF B.L.	● BRT NORMAL	To set the brightness in the viewfinder normal	VTR/PLAYER CAMERA CAMERA MEMORY
	BRIGHT	To brighten the viewfinder	
CONTINUOUS	● OFF	Not to record continuously	MEMORY
	MULTI SCR N	To record 9 images continuously (p. 107)	
QUALITY	● FINE	To record still images in the fine image quality mode, using the "Memory Stick"	VTR/PLAYER MEMORY
	STANDARD	To record still images in the standard image quality mode, using the "Memory Stick"	
FLD./FRAME	● FIELD	To record moving subjects	MEMORY
	FRAME	To record stopping subjects in high quality	
PRINT MARK	● OFF	To cancel print marks on still images	VTR/PLAYER MEMORY
	ON	To write a print mark on the recorded still images you want to print out later	
PROTECT	● OFF	Not to protect still images	VTR/PLAYER MEMORY
	ON	To protect selected still images against accidental erasure (p. 128)	
SLIDE SHOW	—	To play back images in a continuous loop (p. 126)	MEMORY VTR/PLAYER MEMORY
	DELETE ALL	To delete all the images (p. 131)	
FORMAT	● RETURN	To cancel formatting	VTR/PLAYER MEMORY
	FORMAT	To format an inserted "Memory Stick" 1. Select FORMAT with the SEL / PUSH EXEC dial, then press the dial. 2. Turn the SEL / PUSH EXEC dial to select FORMAT, then press the dial. 3. After EXECUTE appears, press the SEL / PUSH EXEC dial. FORMATTING appears during formatting. COMPLETE appears when formatting is finished.	
PHOTO SAVE	—	To duplicate still images (p. 117)	VTR/PLAYER

Notes on LCD B.L. and VF B.L.

- When you select BRIGHT, battery life is reduced by about 10 percent during recording.
- When you use power sources other than the battery pack, BRIGHT is automatically selected.

Notes on formatting

- Supplied or optional "Memory Stick"s have been formatted at factory. Formatting with this camcorder is not required.
- Do not turn the POWER switch or press any button while the display shows FORMATTING.
- You cannot format the "Memory Stick" if the write-protect tab on the "Memory Stick" is set to LOCK.
- Format again if the message appears.

Formatting erases all information on the "Memory Stick"

- Check the contents of the "Memory Stick" before formatting.
- Formatting erases sample images on the "Memory Stick."
- Formatting erases the protected image data on the "Memory Stick."

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
REC MODE	● SP	To record in the SP (Standard Play) mode	VTR/PLAYER CAMERA
	LP	To increase the recording time to 1.5 times the SP mode	
AUDIO MODE	● 12BIT	To record or play back in the 12-bit mode (two stereo sounds)	VTR/PLAYER* CAMERA
	16BIT	To record or play back in the 16-bit mode (the one stereo sound with high quality)	
REMAIN	● AUTO	To display the remaining tape bar: • for about 8 seconds after your camcorder is turned on and calculates the remaining amount of tape • for about 8 seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape • for about 8 seconds after is pressed in VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode • for about 8 seconds after DISPLAY is pressed to display the screen indicators • for the period of tape rewinding, forwarding or picture search in the VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode	VTR/PLAYER CAMERA
	ON	To always display the remaining tape bar	
DATA CODE	● DATE/CAM	To display date, time and recording data during playback	VTR/PLAYER
	DATE	To display date and time during playback	

Note on REC MODE

When you record on the standard 8 tape, your camcorder records in the SP mode even you select the LP mode in the menu settings. In this case, the indicator "8 mm TAPE → SP REC, Hi8 TAPE → LP / SP REC" appears on the LCD screen or in the viewfinder. Use the Hi8 tapes for the LP mode.

Notes on the LP mode

- When you record a tape in the LP mode on your camcorder, we recommend playing the tape on your camcorder. When you play back the tape on other camcorders or VCRs, noise may occur in images or sound.
- When you record in the SP and LP modes on one tape or you record some scenes in the LP mode, the playback image may be distorted or the time code may not be written properly between scenes.

Note on AUDIO MODE

When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance in AUDIO MIX.

*To dub a tape to another VCR

You cannot select AUDIO MODE for tapes recorded in the Digital8 system. You, however, can select AUDIO MODE when you dub tapes recorded in the Hi8/standard 8 system to another VCR using the i.LINK cable.

Customizing Your Camcorder
Выполнение индивидуальных установок на видеослосере

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Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
CLOCK SET	—	To reset the date or time (p. 98)	CAMERA MEMORY
LTR SIZE	● NORMAL	To display selected menu items in normal size	VTR/PLAYER
	2x	To display selected menu items at twice the normal size	CAMERA MEMORY
DEMO MODE	● ON	To make the demonstration appear	CAMERA
	OFF	To cancel the demonstration mode	

Notes on DEMO MODE

- You cannot select DEMO MODE when a cassette is inserted in your camcorder.
- DEMO MODE is set to STBY (Standby) at the factory and the demonstration starts about 10 minutes after you have set the POWER switch to CAMERA without a cassette inserted.
- To cancel the demonstration, insert a cassette, set the POWER switch to other than CAMERA, or set DEMO MODE to OFF.
- When NIGHTSHOT is set to ON, the "NIGHTSHOT" indicator appears on the LCD screen or in the viewfinder and you cannot select DEMO MODE in the menu settings.

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
WORLD TIME	—	To set the clock to the local time. Turn the SEL/PUSH EXEC dial to set a time difference. The clock changes by the time difference you set here. If you set the time difference to 0, the clock returns to the originally set time.	CAMERA MEMORY
BEEP	● MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder	VTR/PLAYER
	NORMAL	To output the beep instead of the melody	CAMERA MEMORY
	OFF	To cancel all sound including shutter sound	
COMMANDER	● ON	To activate the Remote Commander supplied with your camcorder	VTR/PLAYER
	OFF	To deactivate the Remote Commander to avoid remote control misoperation caused by other VCR's remote control	CAMERA MEMORY
DISPLAY	● LCD	To show the display on the LCD screen and in the viewfinder	VTR/PLAYER
	V-OUT/LCD	To show the display on the TV screen, LCD screen and in the viewfinder	CAMERA MEMORY
REC LAMP	● ON	To light up the camera recording lamp at the front of your camcorder	CAMERA MEMORY
	OFF	To turn the camera recording lamp off so that the subject is not aware of the recording	
INDICATOR	● BL OFF	To turn off the backlight on display window	VTR/PLAYER
	BL ON	To turn on the backlight	CAMERA MEMORY

Note

If you press DISPLAY with DISPLAY set to V-OUT/LCD in the menu settings, the picture from a TV or VCR will not appear on the LCD screen even when your camcorder is connected to outputs on the TV or VCR. (Except when your camcorder is connected with the i.LINK cable.)

In more than 5 minutes after removing the power source

The AUDIO MIX, COMMANDER and HiFi SOUND items are returned to their default settings. The other menu items are held in memory even when the battery is removed, as long as the lithium battery is installed.

Notes on INDICATOR

- When you select BL ON, battery life is reduced by about 10 percent during recording.
- When you use power sources other than the battery pack, BL ON is automatically selected.

Customizing Your Camcorder Выключение индивидуальных установок на видеокамере

Resetting the date and time

The default clock setting is set to London time for United Kingdom and to Paris time for the other European countries Time.

The date and time are held in memory by the lithium battery. If you replace the lithium battery with the battery pack or other power source connected, you need not reset the date and time. You must reset the date and time when the lithium battery becomes dead with no power source installed.

First, set the year, then the month, the day, the hour and then the minute.

- While the camcorder is in the standby mode, press MENU to display the menu settings.
- Turn the SEL/PUSH EXEC dial to select , then press the dial.
- Turn the SEL/PUSH EXEC dial to select CLOCK SET, then press the dial.
- Turn the SEL/PUSH EXEC dial to adjust the desired year, then press the dial.
- Set the month, day and hour by turning the SEL/PUSH EXEC dial and pressing the dial.
- Set the minute by turning the SEL/PUSH EXEC dial and pressing the dial by the time signal. The clock starts to move.
- Press MENU to make the menu settings disappear.

Переустановка даты и времени

Установка часов по умолчанию соответствует времени Лондона для моделей Соединенного Королевства и времени Парижа для других европейских моделей. Дата и время сохраняются в памяти с помощью литиевой батарейки. Если Вы от литиевой батарейки переключитесь на батарейный блок или другой подсоединенный источник питания, Вам нужно будет переустановить дату и время. Вам нужно также переустановить дату и время, когда литиевая батарейка разрядится и в это время не будет вставлен источник питания. Сначала установите год, затем месяц, день, час и минуту.

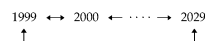
- В режиме ожидания видеокамеры нажмите кнопку MENU для отображения установок меню.
- Поверните диск SEL/PUSH EXEC для выбора индикации , а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора команды CLOCK SET, а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора нужного года, а затем нажмите диск.
- Установите месяц, день и час путем вращения диска SEL/PUSH EXEC и нажатия диска.
- Установите минуты путем вращения диска SEL/PUSH EXEC и нажатия диска в момент передачи сигнала точного времени. Часы начнут функционировать.
- Нажмите кнопку MENU для того, чтобы исчезли установок меню.

Resetting the date and time

The year changes as follows:

Переустановка даты и времени

Год изменяется следующим образом:



If you do not set the date and time

"- - - - -" " - - - - -" is recorded on the tape and the "Memory Stick".

Note on the time indicator

The internal clock of your camcorder operates on a 24-hour cycle.

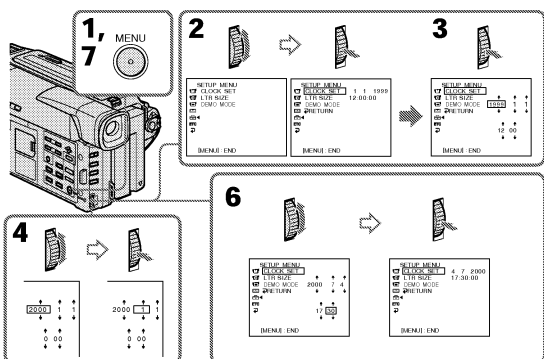
Если Вы не установили дату и время

На ленту и "Memory Stick" будет записываться индикация "- - - - -" " - - - - -".

Примечание по индикатору времени

Встроенные часы Вашей видеокамеры работают в 24-часовом режиме.

Customizing Your Camcorder Выключение индивидуальных установок на видеокамере



— "Memory Stick" operations —

Using "Memory Stick"—introduction

You can record and play back still images on the "Memory Stick" supplied with your camcorder. You can easily play back, record or delete still images. You can exchange image data with other equipment such as a personal computer etc., using the serial port adaptor for "Memory Stick" (not supplied) or PC card adaptor for "Memory Stick" (not supplied).

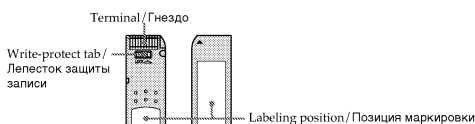
On file format (JPEG)

Your camcorder compresses image data in JPEG format (extension .jpg).

Typical image data file name

100-0001: This file name appears on the LCD screen or in the viewfinder of your camcorder.
Dsc00001.jpg: This file name appears on the display of your personal computer.

Before using "Memory Stick"



- You cannot record or erase still images when the write-protect tab on the "Memory Stick" is set to LOCK.
- We recommend backing up important data.
- Image data may be damaged in the following cases:
 - If you remove the "Memory Stick", turn the power off, or detach the battery for replacement when the access lamp is flashing.
 - If you use "Memory Stick" near static electricity or magnetic fields.
- Prevent metallic objects or your finger from coming into contact with the metal parts of the connecting section.
- Stick its label on the labeling position.
- Do not bend, drop or apply strong shock to "Memory Stick".
- Do not disassemble or modify "Memory Stick".

— Операции с "Memory Stick" —

Использование "Memory Stick"—Введение

Вы можете записывать и воспроизводить неподвижные изображения на "Memory Stick", прилагаемой к Вашей видеокамере. Вы можете легко выполнять воспроизведение, перезапись или удаление неподвижных изображений. Вы можете выполнять обмен данных изображения с другой аппаратурой, такой как персональный компьютер и т.п., используя адаптер последовательного порта для "Memory Stick" (не прилагается), или адаптер PC-карты для "Memory Stick" (не прилагается).

О формате файлов (JPEG)

Ваша видеокамера сжимает данные изображения в формат JPEG (с расширением .jpg).

Типичное имя файла данных изображения

100-0001: Имя этого файла появится на экране ЖКД или в видеоскопелителе.
Dsc00001.jpg: Имя этого файла появится на дисплее Вашего персонального компьютера.

Перед использованием "Memory Stick"

- Вы не можете записывать или стирать неподвижные изображения, если лепесток защиты записи на "Memory Stick" установлен в положение LOCK.
- Рекомендуется выполнять копию важных данных.
- Данные изображения могут быть повреждены в следующих случаях:
 - Если Вы вынули "Memory Stick", выключили питание или отсоединили батарейный блок для замены в то время, когда мигает лампочка доступа.
 - Если Вы используете "Memory Stick" возле магнитов или магнитных полей.
- Не прикасайтесь металлическими частями или Вашими пальцами к металлическим частям соединительных секций.
- Наклейте этикетку в позиции маркировки.
- Не сгибайте, не роняйте и сильно не трясите "Memory Stick".
- Не разбирайте и не модифицируйте "Memory Stick".

Using "Memory Stick"—introduction

- Do not let "Memory Stick" get wet.
- Do not use or keep "Memory Stick" in locations that are:
 - Extremely hot such as in a car parked in the sun or under the scorching sun
 - Under direct sunlight
 - Very humid or subject to corrosive gases
- When you carry or store a "Memory Stick", put it in its case.

Formatting the supplied "Memory Stick"

Formatting with this camcorder is not required. The "Memory Stick" has been formatted in the FAT-format at factory.

"Memory Stick" supplied with your camcorder

- Simple images are recorded in the "Memory Stick" (p. 113). Note that these images will be deleted if you format the "Memory Stick."
- Stick the supplied label on the labeling position to prevent the accidental erasure. As for the labeling position, see the illustration on the previous page.

"Memory Stick"s formatted by a computer

"Memory Stick"s formatted by Windows OS or Macintosh computers do not have a guaranteed compatibility with this camcorder.

Notes on image data compatibility

- Image data files recorded on "Memory Stick"s by your camcorder conform with the Design Rules for Camera File Systems universal standard established by the JEIDA (Japan Electronic Industry Development Association). You cannot play back on your camcorder still images recorded on other equipment (DCR-TRV890E/TRV900/TRV900E or DSC-D700/D770) that does not conform with this universal standard. (These models are not sold in some areas.)
- If you cannot use the "Memory Stick" that has been used on other equipment, format the "Memory Stick" on your camcorder following the steps on page 88. Note that all images on the "Memory Stick" will be deleted if you format it.

"Memory Stick" and are trademarks of Sony Corporation.

Использование "Memory Stick"—Введение

- Не допускайте, чтобы "Memory Stick" становился влажным.
- Не используйте и не храните "Memory Stick" в местах:
 - Чрезмерно жарких, например, в припаркованном под солнцем автомобиле или под пальцами солнца.
 - Под прямым солнечным светом
 - В местах очень влажных или содержащих коррозионные газы
- При переноске или хранении "Memory Stick" положите ее в футляр.

Форматирование прилагаемой "Memory Stick"

Форматирование на данной видеокамере не требуется. "Memory Stick" уже отформатирована в формате FAT на предприятии-изготовителе.

"Memory Stick", прилагаемая к Вашей видеокамере

- На "Memory Stick" записаны образцы изображений (стр. 113). Имейте в виду, что эти изображения будут удалены, если Вы отформатируете "Memory Stick".
- Наклейте прилагаемую этикетку в позиции маркировки для предотвращения случайного стирания. Что касается позиции маркировки, см. рисунок на предыдущей странице.

"Memory Stick", отформатированная на компьютере

"Memory Stick", отформатированная в операционной системе Windows или Macintosh, может оказаться не совместимой с данной видеокамерой.

Примечания по совместимости данных изображений

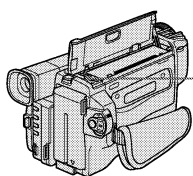
- Файлы данных изображений, записанные на "Memory Stick" с помощью данной видеокамеры, отвечают проектным требованиям для универсального стандарта файловых систем видеокамеры, разработанного JEIDA (японской ассоциацией электронной промышленности). Вы не можете воспроизводить на Вашей видеокамере неподвижные изображения, записанные на другой аппаратуре (DCR-TRV890E/TRV900/TRV900E или DCS-D700/D770), которые не соответствуют этому универсальному стандарту. (Эти модели не продаются в некоторых регионах.)
- Если Вы не можете использовать "Memory Stick", которая использовалась на другой аппаратуре, отформатируйте "Memory Stick" на Вашей видеокамере, следуя инструкции на стр. 94. Имейте в виду, что все изображения на "Memory Stick" будут удалены, если Вы отформатируете ее.

"Memory Stick" и являются фирменными знаками Sony Corporation.

Using "Memory Stick"—introduction

Inserting "Memory Stick"

- Open the lid of the cassette compartment.
- Insert the "Memory Stick" with the facing toward the "Memory Stick" compartment as illustrated until it clicks.
- Close the lid of the cassette compartment.



To eject the "Memory Stick"

Open the lid of the cassette compartment, then press the "Memory Stick" once lightly. The "Memory Stick" pops up.

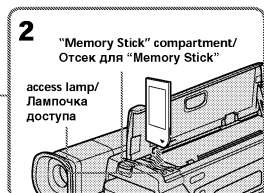
When the access lamp is lit or flashing

Do not shake or strike your camcorder. Do not turn the power off, eject the "Memory Stick" or remove the battery pack. Otherwise, the image data breakdown may occur.

Использование "Memory Stick"—Введение

Установка "Memory Stick"

- Откройте крышку кассетного отсека.
- Вставьте "Memory Stick", так чтобы знак был обращен в сторону отсека для "Memory Stick", как показано на рисунке, пока не раздастся щелчок.
- Закройте крышку кассетного отсека.



Для извлечения "Memory Stick"

Откройте крышку кассетного отсека, затем слегка нажмите "Memory Stick" один раз. "Memory Stick" выйдет из отсека.

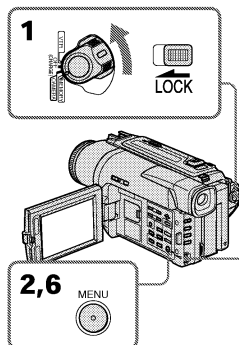
Если лампочка доступа горит или мигает

Не трясите и не стучите по Вашей видеокамере. Не выключайте питание, не извлекайте "Memory Stick" из отсека и не снимайте батарейный блок. В противном случае данные изображения могут быть повреждены.

Using "Memory Stick"—introduction

Selecting image quality mode

- You can select image quality mode in still image recording. Default setting is FINE.
- Set the POWER switch to VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) or MEMORY. Make sure that the LOCK is set to the right (unlock) position.
 - Press MENU to make the menu display appear.
 - Turn the SEL/PUSH EXEC dial to select , then press the dial.
 - Turn the SEL/PUSH EXEC dial to select QUALITY, then press the dial.
 - Turn the SEL/PUSH EXEC dial to select the desired image quality, then press the dial.
 - Press MENU to erase the menu display.



Note

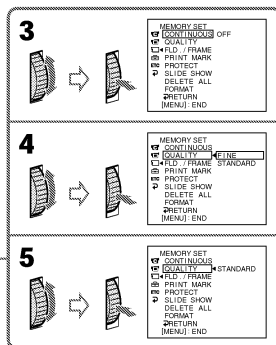
In some cases, changing the image quality mode may not affect the image quality, depending on the types of images you are shooting.

Использование "Memory Stick"—Введение

Выбор режима качества изображения

Вы можете выбрать режим качества изображения при записи неподвижного изображения. Установкой по умолчанию является FINE.

- Установите переключатель POWER в положение VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) или MEMORY. Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
- Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
- Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора установки QUALITY, а затем нажмите диск.
- Поверните диск SEL/PUSH EXEC для выбора подходящего качества изображения, а затем нажмите диск.
- Нажмите кнопку MENU для стирания индикации меню.



Примечание

В некоторых случаях, изменение режима качества изображения может отразиться на качестве изображений, в зависимости от типов изображений, которые Вы снимаете.

Using "Memory Stick" – introduction

Image quality settings

Setting	Meaning
FINE (FINE)	Use this mode when you want to record high quality images. The image is compressed to about 1/6.
STANDARD (STD)	This is the standard image quality. The image is compressed to about 1/10.

Differences in image quality mode

Recorded images are compressed in JPEG format before being stored into memory. The memory capacity allotted to each image varies depending on the selected image quality mode. Details are shown in the table below. (The number of pixels is 640 × 480, regardless of image quality mode. The data size before compression is about 600 KB.)

Image quality mode	Memory capacity
FINE	About 100 KB
STANDARD	About 60 KB

Approximate number of images you can record on a "Memory Stick"

The approximate number of images you can record on a "Memory Stick" formatted using this camcorder varies depending on which image quality mode you select and the complexity of the subject.

Maximum number of images you can record on a "Memory Stick"

Setting	4MB	8MB	16MB	32MB	64MB
FINE	40	81	164	329	659
STANDARD	60	122	246	494	988

Note on the image quality mode indicator

This is only displayed during recording.

Использование "Memory Stick" – Введение

Установки качества изображения

Установка	Значение
FINE (FINE)	Используйте этот режим, если Вы хотите записать высококачественные изображения. Изображение сжимается примерно до 1/6.
STANDARD (STD)	Это соответствует стандартному качеству изображения. Изображение сжимается примерно до 1/10.

Отличия в режиме качества изображения
Записанные изображения сжимаются в формат JPEG перед сохранением в памяти. Емкость памяти, выделенная для каждого изображения, изменяется в зависимости от выбранного режима качества изображения. Подробности содержатся в приведенной ниже таблице. (Количество элементов изображения равно 640 × 480, независимо от режима качества изображения. Размер перед сжатием составляет около 600 Кб.)

Режим качества изображения	Емкость памяти
FINE	Около 100 Кб
STANDARD	Около 60 Кб

Приблизительное количество изображений, которое Вы можете записать на "Memory Stick"
Приблизительное количество изображений, которое Вы можете записать на "Memory Stick", отформатированную с помощью данной видеокамеры, изменяется в зависимости от выбранного Вами режима качества изображения и сложности объекта.

Максимальное количество изображений, которое Вы можете записать на "Memory Stick".

Setting	4MB	8MB	16MB	32MB	64MB
FINE	40	81	164	329	659
STANDARD	60	122	246	494	988

Примечание по индикатору режима качества изображения

Этот индикатор отображается только во время записи.

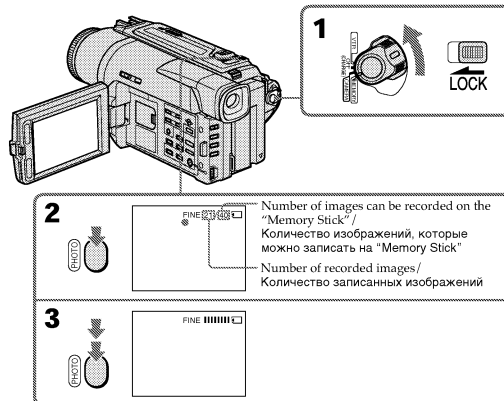
Recording still images on "Memory Stick" – Memory Photo recording

You can select the FIELD or FRAME mode in still image recording. Your camcorder compensates for camera-shake when recording moving subjects in the FIELD mode. Your camcorder records still images in high quality in the FRAME mode. Select the FIELD or FRAME in the menu settings (p. 85).

Before operation

Insert a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
- (2) Keep pressing PHOTO lightly. The green ● mark stops flashing, then lights up. The brightness of the image and focus are adjusted being targeted for the middle of the image and are fixed. Recording does not start yet.
- (3) Press PHOTO deeper. The image displayed on the screen will be recorded on the "Memory Stick". Recording is complete when the bar scroll indicator disappears.



Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Вы можете выбрать режим FIELD или FRAME при записи неподвижных изображений. Ваша видеокамера компенсирует подрагивания при записи движущихся объектов в режиме FIELD. Ваша видеокамера записывает неподвижные изображения с высоким качеством в режиме FRAME. Выберите опцию FIELD или FRAME в установках меню (стр. 85).

Перед началом работы

Вставьте "Memory Stick" в Вашу видеокамеру.

- (1) Установите переключатель POWER в положение MEMORY. Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
- (2) Держите слегка нажатой кнопку PHOTO. Зеленый знак ● прекратит мигать и будет высвечиваться постоянно. Яркость изображения и фокусное расстояние будут отрегулированы при наводке на середину изображения и будут зафиксированы при этом.
- (3) Нажмите кнопку PHOTO сильнее. Изображение, отображаемое на экране, будет записано на "Memory Stick". Запись считается завершенной, если исчезнет перемещающийся полосатый индикатор.

"Memory Stick" operations
Операции с "Memory Stick"

Recording still images on "Memory Stick" – Memory Photo recording

Notes

- When recording fast-moving subjects in the FRAME mode, the recorded image blurry.
- When recording in the FRAME mode, your camcorder may not correct camera-shake. We recommend that you shoot objects with a tripod.
- When recording still images at step 2 with the PHOTO button pressed lightly, the image momentarily flickers. This is not a malfunction.
- Before you shoot in autofocus mode, check that the subject is in sharp focus.
- The brightness of the picture and focus are adjusted on the center portion of the image.

When the POWER switch is set to MEMORY

The following functions do not work: wide mode, digital effect, picture effect, title, low lux mode of PROGRAM AE.

When you are recording a still image

You can neither turn off the power nor press PHOTO.

When you press the PHOTO button on the Remote Commander

Your camcorder immediately records the image that is on the screen when you press the button.

Recording images continuously

You can record still images continuously.

Multi screen mode

You can record 9 still images continuously on a single page.



Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Примечания

- При записи быстро движущихся объектов в режиме FRAME, изображение будет размытым.
- При записи в режиме FRAME функция компенсации подрагивания Вашей видеокамеры может работать неправильно. Рекомендуется выполнять съемку объектов с помощью штатива.
- Во время записи неподвижных изображений в пункте 2 с нажатой кнопкой PHOTO, изображение будет временно мерцать. Это не является неисправностью.
- Перед съемкой в режиме автоматической фокусировки проверьте, чтобы объект был четко сфокусирован.
- Яркость объекта и фокусное расстояние будут отрегулированы по центру изображения.

Если переключатель POWER установлен в положение MEMORY

Следующие функции не будут работать: Широкоэкранный режим, цифровой эффект, эффект изображения, титр, режим низкой освещенности PROGRAM AE.

Если Вы записываете неподвижное изображение

Вы не можете ни выключить питание, ни нажать кнопку PHOTO.

Если Вы нажимаете PHOTO на пульте дистанционного управления

Ваша видеокамера тотчас же запишет изображение, которое будет на экране при нажатии кнопки.

Запись изображений непрерывно

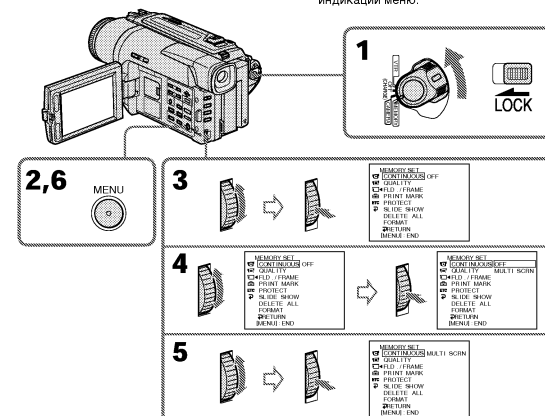
Вы можете записывать неподвижные изображения непрерывно.

Многоэкранный режим

Вы можете записывать 9 неподвижных изображений непрерывно на одной странице.

Recording still images on "Memory Stick" – Memory Photo recording

- (1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
- (2) Press MENU to make the menu display appear.
- (3) Turn the SEL/PUSH EXEC dial to select , then press the dial.
- (4) Turn the SEL/PUSH EXEC dial to select CONTINUOUS, then press the dial.
- (5) Turn the SEL/PUSH EXEC dial to select the desired setting, then press the dial.
- (6) Press MENU to erase the menu display.



Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

- (1) Установите переключатель POWER в положение MEMORY. Убедитесь, что переключатель LOCK установлен в правое (незафиксированное) положение.
- (2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
- (3) Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
- (4) Поверните диск SEL/PUSH EXEC для выбора установки CONTINUOUS, а затем нажмите диск.
- (5) Поверните диск SEL/PUSH EXEC для выбора желаемой установки, а затем нажмите диск.
- (6) Нажмите кнопку MENU для стирания индикации меню.

"Memory Stick" operations
Операции с "Memory Stick"

If the capacity of the "Memory Stick" becomes full
"Σ FULL" appears on the LCD screen or in the viewfinder, and you cannot record still images on the "Memory Stick."

Если емкость "Memory Stick" переполнена

На экране или в видискателе появится индикация "Σ FULL", и Вы не сможете записывать неподвижные изображения на эту "Memory Stick".

Recording still images on "Memory Stick" – Memory Photo recording

Continuous shooting settings

Setting	Meaning (indicator on the screen)
OFF	Your camcorder shoots one image at a time. (no indicator)
MULTI SCRN	Your camcorder shoots 9 still images at about 0.5 sec intervals and displays the images on a single page divided into 9 boxes. ()

Note on using the video flash light (not supplied)

The video flash light does not work in the multi screen mode if you install it to the accessory shoe.

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Установки непрерывной съемки

Установка	Значение (индикатор на экране)
OFF	Ваша видеокамера снимает одно изображение за раз (без индикатора).
MULTI SCRN	Ваша видеокамера снимает 9 неподвижных изображений примерно с 0,5-секундными интервалами и отображает изображения на одной странице, разделенной на 9 прямоугольников. ()

Примечание по использованию видеосъемки (не прилагается)
Видеосъемка не работает в непрерывном или многоэкранном режиме, если Вы установили ее в держатель для вспомогательных принадлежностей.

Recording still images on "Memory Stick" – Memory Photo recording

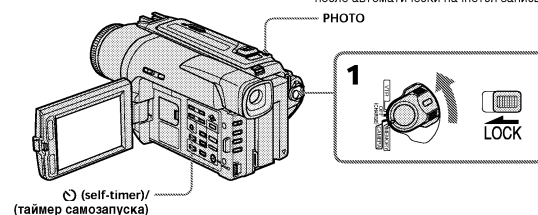
Self-timer memory photo recording

You can record still images on "Memory Stick" with the self-timer. This mode is useful when you want to record yourself.

You can use the Remote Commander for this operation.

- (1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
- (2) Press (self-timer). The indicator appears on the LCD screen or in the viewfinder.
- (3) Press PHOTO firmly.

Self-timer starts counting down from 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically.



To cancel self-timer recording

Press (self-timer) so that the indicator disappears from the LCD or viewfinder screen while your camcorder is in the standby mode. You cannot cancel self-timer recording with the Remote Commander.

Note

The self-timer recording mode is automatically canceled when:
– Self-timer recording is finished.
– The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E).

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Фотосъемка в память по таймеру самозапуска

Вы можете записывать неподвижные изображения на "Memory Stick" с помощью таймера самозапуска. Этот режим является полезным, если Вы хотите снять самого себя. Для этой операции Вы можете использовать пульт дистанционного управления.

- (1) Установите переключатель POWER в положение MEMORY. Убедитесь, что переключатель LOCK установлен в правом (незафиксированном) положении.
- (2) Нажмите кнопку (таймер самозапуска). На экране ЖКД или в видоискателе появится индикатор (самозапуска).
- (3) Нажмите кнопку PHOTO сильнее. Таймер самозапуска начнет обратный отсчет от 10 с зуммерным сигналом. В последние две секунды обратного отсчета зуммерный сигнал будет звучать чаще, после автоматически начнется запись.

Для отмены записи по таймеру самозапуска

Нажмите кнопку (таймер самозапуска), так чтобы индикатор исчез с экрана ЖКД или видоискателя в то время, когда Ваша видеокамера находится в режиме ожидания. С помощью пульта дистанционного управления Вы не можете отменить запись по таймеру самозапуска.

Примечание

Режим записи по таймеру самозапуска будет автоматически отменен, если:
– Запись по таймеру самозапуска закончилась.
– Переключатель POWER установлен в положение OFF (CHARGE), VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/ TRV520E).

Superimposing a still image in the "Memory Stick" on a moving image – MEMORY MIX

You can superimpose a still image you have recorded on the "Memory Stick" on top of the moving image you are recording.

M. CHROM (Memory chroma key)

You can swap a blue area of a still image such as an illustration or a frame with a moving image.

M. LUMI (Memory luminance key)

You can swap a brighter area of a still image such as a handwritten illustration or title with a moving image. Record a title on the "Memory Stick" before a trip or event for convenience.

C. CHROM (Camera chroma key)

You can superimpose a moving image on top of a still image such as an image can be used as background. Shoot the subject against a blue background. The blue area of the moving image will be swapped with a still image.

M. OVERLAP (Memory overlap)

You can make a moving image fade in on top of a still image.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

Вы можете наложить неподвижное изображение, записанное на "Memory Stick", на записываемое подвижное изображение.

M. CHROM (кнопка цветности памяти)

Вы можете менять местами синюю часть неподвижного изображения с подвижным изображением.

M. LUMI (кнопка яркости памяти)

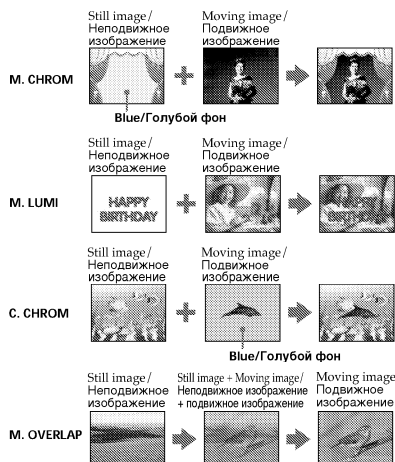
Вы можете менять местами более яркую часть неподвижного изображения с подвижным изображением. Запишите титр на "Memory Stick" перед путешествием или каким-либо событием для удобства.

C. CHROM (кнопка цветности видеокамеры)

Вы можете наложить движущееся изображение поверх неподвижного изображения, которое может служить фоном. Например, Вы можете выполнить съемку объекта на голубом фоне. Голубая часть подвижного изображения поменяется местами с неподвижным изображением.

M. OVERLAP (перекрывание памяти)

Вы можете сделать плавный ввод движущегося изображения поверх неподвижного изображения.



Superimposing a still image in the "Memory Stick" on a moving image – MEMORY MIX

Before operation

Insert a Hi8 / Digital8 tape for recording and a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to CAMERA.
- (2) Press MEMORY MIX in the standby mode. The last recorded or last composed image appears on the lower part of the screen as a thumbnail image.
- (3) Press MEMORY +/- to select the still image you want to superimpose. To see the previous image, press MEMORY -. To see the next image, press MEMORY +.
- (4) Turn the SEL/PUSH EXEC dial to select the desired mode. The mode changes as follows:
M. CHROM ↔ M. LUMI ↔ C. CHROM ↔ M. OVERLAP
- (5) Press the SEL/PUSH EXEC dial. The still image is superimposed on the moving image.
- (6) Turn the SEL/PUSH EXEC dial to adjust the effect.

- M. CHROM – The colour (blue) scheme of the area in the still image which is to be swapped with a moving image
- M. LUMI – The colour (bright) scheme of the area in the still image which is to be swapped with a moving image
- C. CHROM – The colour (blue) scheme of the area in the moving image which is to be swapped with a still image
- M. OVERLAP – No adjustment necessary

The fewer bars there are on the screen, the stronger the effect.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

Перед началом работы

Вставьте ленту Hi8 / Digital8 для записи и "Memory Stick" в Вашу видеокамеру.

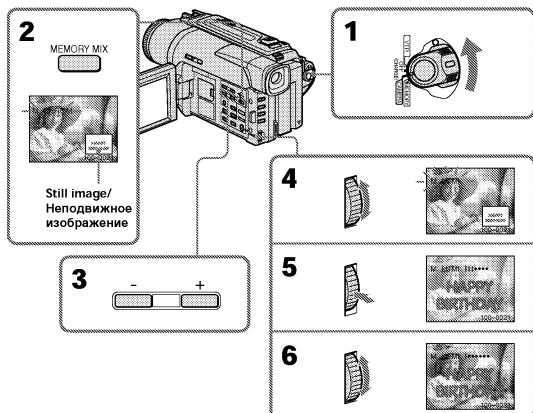
- (1) Установите переключатель POWER в положение CAMERA.
- (2) Нажмите кнопку MEMORY MIX в режиме ожидания. Последнее записанное или скомпонованное изображение появится в нижней части экрана в виде крошечного изображения.
- (3) Нажмите кнопку MEMORY +/- для выбора неподвижного изображения, которое Вы хотите наложить на подвижное. Для просмотра предыдущего изображения нажмите кнопку MEMORY -. Для просмотра следующего изображения нажмите кнопку MEMORY +.
- (4) Поверните диск SEL/PUSH EXEC для выбора нужного режима. Режим будет изменяться следующим образом:
M. CHROM ↔ M. LUMI ↔ C. CHROM ↔ M. OVERLAP
- (5) Нажмите диск SEL/PUSH EXEC. Неподвижное изображение будет наложено на подвижное.
- (6) Поверните диск SEL/PUSH EXEC для регулировки эффекта.

- M. CHROM – Цветовая гамма (голубая) участка в неподвижном изображении, который будет заменен на подвижное изображение
- M. LUMI – Цветовая гамма (яркая) участка в неподвижном изображении, который будет заменен на подвижное изображение
- C. CHROM – Цветовая гамма (голубая) участка в неподвижном изображении, который будет заменен на подвижное изображение
- M. OVERLAP – Не требуется никаких регулировок

Чем меньше полос на экране, тем сильнее эффект.

Superimposing a still image in the "Memory Stick" on a moving image – MEMORY MIX

(7) Press START/STOP to start recording.



To change the still image to superimpose

Do either of the following:
– Press MEMORY +/- before step 7.
– Press the SEL/PUSH EXEC dial before step 7, and repeat the procedure from step 4.

To change the mode setting

Press the SEL/PUSH EXEC dial before step 7, and repeat the procedure from step 4.

To cancel M. CHROM/M. LUMI/ C. CHROM/M.OVERLAP

Press MEMORY MIX.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

(7)Нажмите кнопку START/STOP для начала записи

Для изменения неподвижного изображения для наложения

Выполните следующее:
–Нажмите кнопку MEMORY +/- перед пунктом 7.
–Нажмите диск SEL/PUSH EXEC перед пунктом 7 и повторите процедуру, начиная с пункта 4.

Для изменения установки режима

Нажмите диск SEL/PUSH EXEC перед пунктом 7 и повторите процедуру с пункта 4.

Для отмены установки M. CHROM/M. LUMI/ C. CHROM/M.OVERLAP

Нажмите кнопку MEMORY MIX.

Superimposing a still image in the "Memory Stick" on a moving image – MEMORY MIX

During recording

You cannot change the mode setting.

The "Memory Stick" supplied with your camcorder stores 20 images

–For M. CHROM: 18 images (such as a frame) 100-0001~100-0018
–For C. CHROM: 2 images (such as a background) 100-0019~100-0020

Sample images

Sample images stored in the "Memory Stick" supplied with your camcorder are protected (p. 128).

When you select M.OVERLAP

You cannot change the still image or the mode setting.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

Во время записи

Вы не можете изменить установку режима.

"Memory Stick", прилагаемая к Вашей видеокамере, вмещает 20 изображений

–Для M. CHROM: 18 изображений (например, кадр) 100-0001~100-0018
–Для C. CHROM: два изображения (например, фон) 100-0019~100-0020

Образцы изображений

Образцы изображений на "Memory Stick", прилагаемой к Вашей видеокамере, защищены от стирания (стр. 128).

Если Вы выберете M. OVERLAP

Вы не можете изменять неподвижное изображение или установку режима.

Recording an image from a tape as a still image

Your camcorder can read moving image data recorded on a tape in the Digital8 system, and record it as a still image on a "Memory Stick". Your camcorder can also take in moving image data through the input connector and record it as a still image on a "Memory Stick".

Before operation

Insert a tape recorded in the Digital8 system and a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E).
- (2) Press **PLAY**. The image recorded on the tape is played back.
- (3) Keep pressing PHOTO lightly until the image from the tape freezes. CAPTURE appears on the LCD screen or in the viewfinder. Recording does not start yet.
- (4) Press PHOTO deeper. The image displayed on the screen will be recorded on the "Memory Stick". Recording is complete when the bar scroll indicator disappears.

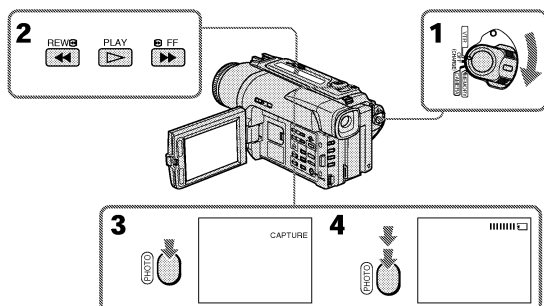
Запись изображения с ленты как неподвижного изображения

Ваша видеокамера может считывать данные подвижного изображения, записанные на ленте в цифровой системе Digital8, и записывать его как неподвижное изображение на "Memory Stick". Ваше видеокамера также позволяет вводить данные подвижного изображения через разъем входного сигнала и записывать их как неподвижное изображение на "Memory Stick".

Перед началом работы

Вставьте ленту, записанную в системе Digital8, и "Memory Stick" в Вашу видеокамеру.

- (1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/DCR-TRV520E).
- (2) Нажмите кнопку **PLAY**. Начнется воспроизведение изображения, записанного на ленте.
- (3) Держите слегка нажатой кнопку PHOTO до тех пор, пока изображение с ленты не будет "заморожено". На экране ЖКД или в видеоскатель появится индикация "CAPTURE". Запись пока не начнется.
- (4) Нажмите кнопку PHOTO сильнее. Изображение, отображаемое на экране, будет записано на "Memory Stick". Запись считается завершенной, если исчезнет перемещающийся полосатый индикатор.



Recording an image from a tape as a still image

When the access lamp is lit or flashing

Never shake or strike the unit. Also do not turn the power off, eject the "Memory Stick" or remove the battery pack. Otherwise, an image data breakdown may occur.

If **ERR** appears on the LCD screen or in the viewfinder

The inserted "Memory Stick" is incompatible with your camcorder because its format does not conform with your camcorder. Check the format of the "Memory Stick".

If you press PHOTO lightly in the playback mode

Your camcorder stops momentarily.

Sound recorded on a tape

You cannot record the audio from a tape.

Titles superimposed on tapes

You cannot record the titles on the "Memory Stick". However, you can record titles which have already been recorded on tapes.

When you press PHOTO on the Remote Commander

Your camcorder immediately records the image that is on the screen when you press the button.

Запись изображения с ленты как неподвижного изображения

Если лампочка доступа горит или мигает

Не трясите и не стучите по Вашей видеокамере. Также не выключайте питание, не извлекайте "Memory Stick" из отсека и не снимайте батарейный блок. В противном случае данные изображения могут быть повреждены.

Если на экране ЖКД или в видеоскатель появится индикация **ERR**

Вставлена "Memory Stick", которая несовместима с Вашей видеокамерой, поскольку ее формат не соответствует видеокамере. Проверьте формат "Memory Stick".

Если в режиме воспроизведения слегка нажать кнопку PHOTO

Ваша видеокамера на мгновение останавливается.

Звук, записанный на ленту

Вы не можете записывать звук с ленты.

Титры, наложенные на ленту

Вы можете записывать титры на "Memory Stick". Однако, Вы можете записывать титры, которые уже записаны на лентах.

Если Вы нажмете кнопку PHOTO на пульте дистанционного управления

Ваша видеокамера тотчас же запишет изображение, отображаемое на экране, если Вы нажмете эту кнопку.

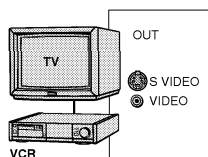
Recording an image from a tape as a still image

Recording a still image from other equipment

- DCR-TRV620E only

- (1) Set the POWER switch to VTR and set DISPLAY to LCD in the menu settings.
- (2) Play back the recorded tape, or turn the TV on to see the desired programme. The image from TV or VCR appears on the LCD or in the viewfinder.
- (3) Follow the steps 3 and 4 on page 114.

Using the A/V connecting cable



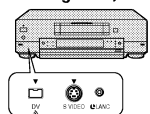
Signal flow / Передача сигнала
Connect the yellow plug of the A/V connecting cable to the video jack on the VCR or the TV.

If your TV or VCR has an S video jack

Connect using an S video cable (not supplied) to obtain high-quality pictures. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.

Connect an S video cable (not supplied) to the S video jacks of both your camcorder and the TV or VCR.

Using the i.LINK cable (the DV connecting cable)



(not supplied) / (не прилагается)
Signal flow / Передача сигнала

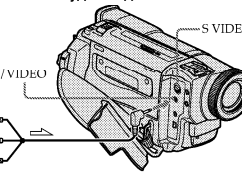
Запись изображения с ленты как неподвижного изображения

Запись неподвижного изображения с другого аппарата

- Только DCR-TRV620E

- (1) Установите переключатель POWER в положение VTR и установите опцию DISPLAY в положение LCD в установках меню.
- (2) Начните воспроизведение записанной ленты или включите телевизор для просмотра нужной программы. На экране ЖКД или в видоискателе появится изображение от телевизора или КВМ.
- (3) Выполните действия пунктов 3 и 4 на стр. 114.

Использование соединительного кабеля аудио/видео

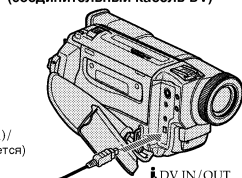


Подсоедините желтый штекер соединительного кабеля аудио/видео к видеогнезду на КВМ или телевизоре.

Если в Вашем телевизоре или КВМ имеется гнездо S видео

Выполните подсоединение с помощью кабеля S видео (не прилагается) для получения высококачественных изображений. При данном подсоединении Вам не нужно подсоединять желтый (видео) штекер соединительного кабеля аудио/видео. Подсоедините кабель S видео (не прилагается) к гнездам S видео на Вашей видеокамере и КВМ.

Использование кабеля i.LINK (соединительный кабель DV)




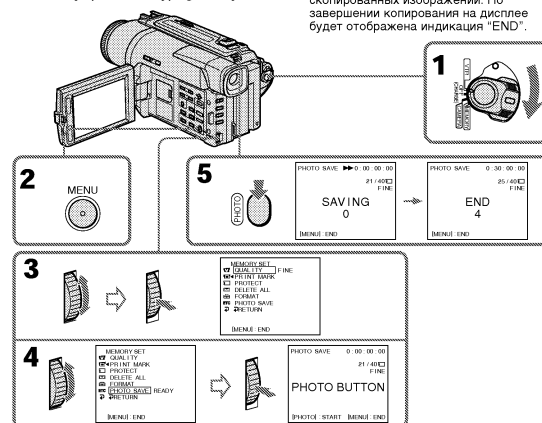
Copying still images from a tape - Photo save

Using the search function, you can automatically take in only still images from tapes recorded in the Digital8 system and record them on a "Memory Stick" in sequence.

Before operation

- Insert a tape recorded in the Digital8 system and rewind the tape.
- Insert a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E).
- (2) Press MENU to make the menu display appear.
- (3) Turn the SEL/PUSH EXEC dial to select .
- (4) Turn the SEL/PUSH EXEC dial to select PHOTO SAVE, then press the dial. "PHOTO BUTTON" appears on the LCD screen or in the viewfinder.
- (5) Press PHOTO firmly. The still image from the tape is recorded on the "Memory Stick". The number of still images copied is displayed. END is displayed when copying is completed.



"Memory Stick" operations

Операции с "Memory Stick"

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Copying still images from a tape - Photo save

To stop copying

Press MENU to stop copying.

When the memory of the "Memory Stick" is full

MEMORY FULL appears on the LCD screen, and the copying stops. Insert another "Memory Stick" and repeat the procedure from step 2.

When the access lamp is lit or flashing

Never shake or strike your camcorder. As well do not turn the power off, eject the "Memory Stick" or remove the battery pack. Otherwise, the image data breakdown may occur.

To record all the images recorded on the tape

Rewind the tape all the way back and start copying.

If the write-protect tab on the "Memory Stick" is set to LOCK

NOT READY appears when you select the item in the menu settings.

When you change the "Memory Stick" in the middle of copying

Your camcorder resumes copying from the last image recorded on the previous "Memory Stick".

Копирование неподвижных изображений с ленты - Сохранение фотоснимков в памяти

Для остановки копирования

Нажмите кнопку MENU для остановки копирования.

В случае переполнения памяти "Memory Stick"

На экране ЖКД появится индикация MEMORY FULL, и копирование остановится. Вставьте другую "Memory Stick" и повторите процедуру, начиная с пункта 2.

Если лампочка доступа горит или мигает

Никогда не трясите и не стучите по Вашей видеокамере. Также, не выключайте питание, не извлекайте "Memory Stick" из отсека и не снимайте батарейный блок. В противном случае данные изображения могут быть повреждены.

Для записи всех изображений, записанных на ленте

Перематывайте ленту до конца назад и начните копирование.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK

Появится индикация индикация NOT READY, если Вы выберете пункт в установках меню.

Если Вы замените "Memory Stick" в середине копирования

Ваша видеокамера возобновит копирование, начиная с последнего изображения, записанного на предыдущей "Memory Stick".

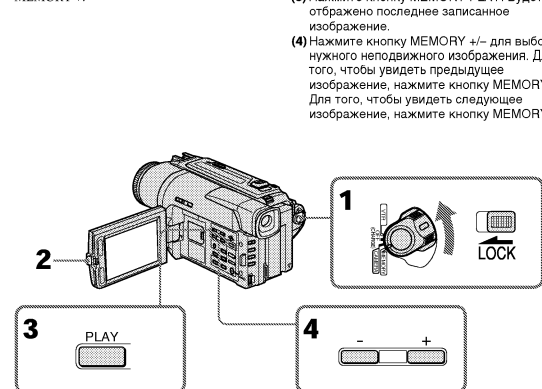
Viewing a still image - Memory Photo playback

You can play back still images recorded on a "Memory Stick". You can also play back 6 images at a time by selecting the index screen.

Before operation

Insert a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E). Make sure that the LOCK is set to the right (unlock) position.
- (2) Open the LCD panel while pressing OPEN.
- (3) Press MEMORY PLAY. The last recorded image is displayed.
- (4) Press MEMORY +/- to select the desired still image. To see the previous image, press MEMORY -. To see the next image, press MEMORY +.



To stop memory photo playback

Press MEMORY PLAY.

Просмотр неподвижного изображения - Воспроизведение фотоснимков из памяти

Вы можете воспроизводить неподвижные изображения, записанные на "Memory Stick". Вы можете также воспроизводить 6 изображений одновременно путем выбора индексного экрана.

Перед началом работы

Вставьте "Memory Stick" в Вашу видеокамеру.

- (1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/ TRV520E). Убедитесь, что фиксатор LOCK установлен в правое (незафиксированное) положение.
- (2) Нажав кнопку OPEN, откройте панель ЖКД.
- (3) Нажмите кнопку MEMORY PLAY. Будет отображено последнее записанное изображение.
- (4) Нажмите кнопку MEMORY +/- для выбора нужного неподвижного изображения. Для того, чтобы увидеть предыдущее изображение, нажмите кнопку MEMORY -. Для того, чтобы увидеть следующее изображение, нажмите кнопку MEMORY +.

"Memory Stick" operations

Операции с "Memory Stick"

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Viewing a still image – Memory Photo playback

To play back recorded images on a TV screen

- Connect your camcorder to the TV with the A/V connecting cable supplied with your camcorder before the operation.
- When operating memory photo playback on a TV or the LCD screen, the image quality may appear to have deteriorated. This is not a malfunction. The image data is as good as ever.
- Turn the audio volume of the TV down before operation, or noise (howling) may be output from the TV speakers.

If "NO FILE" appears on the LCD screen or in the viewfinder

No image is recorded on the "Memory Stick."

Image data modified with personal computers or shot with other equipment

You may not be able to play them back with your camcorder.

Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

Для воспроизведения записанных изображений на экране телевизора

- Перед началом воспроизведения подсоедините Вашу видеокамеру к телевизору с помощью соединительного кабеля аудио/видео, прилагаемого к Вашей видеокамере.
- При воспроизведении фотоснимков из памяти на экране телевизора или ЖКД, качество изображения может ухудшиться. Это не является неисправностью. Данные изображения находятся в том же состоянии, как и прежде.
- Перед началом воспроизведения уменьшите громкость телевизора вниз, иначе через акустическую систему телевизора может послышаться шум (завывание).

Если на экране ЖКД или в видоискателе появится индикация "NO FILE" На "Memory Stick" нет записанных изображений.

Данные изображения, видоизмененные с помощью персонального компьютера или снятые с помощью другой аппаратуры. Вы не сможете воспроизвести их с помощью Вашей видеокамеры.

Screen indicators during still image playback

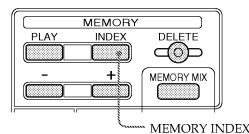


Экранные индикаторы во время воспроизведения неподвижных изображений

Viewing a still image – Memory Photo playback

Playing back 6 recorded images at a time (index screen)

You can play back 6 recorded images at a time. This function is especially useful when searching for a particular image.



Press MEMORY INDEX.

A red mark appears above the image that is displayed before changing to the index screen mode.

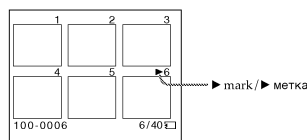
Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

Воспроизведение 6 записанных изображений одновременно (индексный экран)

Вы можете воспроизвести 6 записанных изображений одновременно. Эта функция является особенно полезной при выполнении поиска отдельных изображений.

Нажмите кнопку MEMORY INDEX.

Красная метка появится над изображением, которое будет отображаться перед изменением режима индексного экрана.



- To display the following 6 images, keep pressing MEMORY +.
- To display the previous 6 images, keep pressing MEMORY –.

To return to the normal playback screen (single screen)

Press MEMORY +/- to move the mark to the image you want to display on full screen, then press MEMORY PLAY.

- Для отображения следующих 6 изображений держите нажатой кнопку MEMORY +.
- Для отображения предыдущих 6 изображений держите нажатой кнопку MEMORY –.

Для возврата к экрану обычного воспроизведения (одиночный экран)

Нажмите кнопку MEMORY +/- для перемещения знака к изображению, которое Вы хотите отобразить на полный экран, а затем нажмите кнопку MEMORY PLAY.

Viewing a still image – Memory Photo playback

Note

When displaying the index screen, the number appears above each image. This indicates the order in which images are recorded on the "Memory Stick". These numbers are different from the data file names.

Files modified with personal computers

These files may not be displayed on the index screen. Image files shot with other equipment may not be displayed on the index screen either.

Viewing the recorded images using a personal computer

The image data recorded with your camcorder is compressed in the JPEG format. If you use the application software, PictureGear 4.1 Lite supplied with your camcorder, you can see images recorded on the "Memory Stick" on a computer screen. Use the PC serial cable supplied with your camcorder for this operation.

Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

Примечание

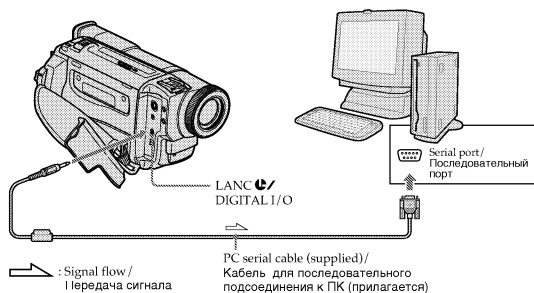
При отображении индексного экрана над каждым изображением будет появляться номер. Он означает порядок, в котором изображения записаны на "Memory Stick". Эти номера отличаются от имен файлов данных.

Данные изображения, видоизмененные с помощью персонального компьютера

Эти файлы могут быть не отображены на индексном экране. Файлы изображений, снятых с помощью другой аппаратуры, могут не отображаться ни на одном из индексных экранов.

Просмотр записанных изображений с помощью персонального компьютера

Данные изображения, записанные с помощью Вашей видеокамеры, сжимаются до формата JPEG. Если Вы используете прикладное программное обеспечение, PictureGear 4.1 Lite, прилагаемое к Вашей видеокамере, Вы можете увидеть изображения, записанные на "Memory Stick", на экране компьютера. Используйте шнур для последовательного подсоединения к ПК, прилагаемый к Вашей видеокамере, для этой операции.



Copying the image recorded on "Memory Stick" to tapes

– DCR-TRV620E only

You can copy still images or titles recorded on "Memory Stick"s and record them to Hi8 Hi8V/Digital8 tapes.

Before operation

Insert a Hi8 Hi8V/Digital8 tape for recording and a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to VTR.
- (2) Using the video control buttons, search a point where you want to record the desired still image. Set the Hi8 Hi8V/Digital8 tape to playback pause mode.
- (3) Press REC and the button on its right simultaneously on your camcorder. The Hi8 Hi8V/Digital8 tape is set to the recording pause mode.
- (4) Press MEMORY PLAY to play back the still image you want to copy (p. 119).
- (5) Press II to start recording and press II again to stop.
- (6) If you have more to copy, repeat steps 4 and 5.

Копирование изображений, записанных на "Memory Stick", на ленты

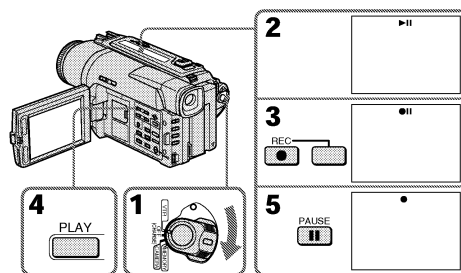
– Только DCR-TRV620E

Вы можете копировать неподвижные изображения или титры, записанные на "Memory Stick", и записывать их на ленты Hi8 Hi8V/Digital8.

Перед началом работы

Вставьте ленту Hi8 Hi8V/Digital8 для записи и "Memory Stick" в Вашу видеокамеру.

- (1) Установите переключатель POWER в положение VTR.
- (2) Используйте кнопки видеоконтроля, найдите точку, где Вы хотите записать нужное неподвижное изображение. Установите ленту Hi8 Hi8V/Digital8 в режим паузы воспроизведения.
- (3) Нажмите одновременно кнопку REC и кнопку справа от нее на Вашей видеокамере. Лента Hi8 Hi8V/Digital8 будет установлена в режим паузы воспроизведения.
- (4) Нажмите кнопку MEMORY PLAY для воспроизведения неподвижного изображения, которое Вы хотите скопировать (стр. 119).
- (5) Нажмите кнопку II для начала записи и нажмите кнопку II еще раз для остановки.
- (6) Если Вы хотите продолжить копирование, повторите действия пунктов 4 и 5.



To stop copying in the middle

Press II.

Для остановки копирования посередине

Нажмите кнопку II.

Copying the image recorded on "Memory Stick" to tapes

During copying

You cannot operate the following buttons: MEMORY PLAY, MEMORY INDEX, MEMORY DELETE, MEMORY MIX, MEMORY +, and MEMORY -.

Note on the index screen

You cannot record the index screen.

If you press the EDITSEARCH buttons during pause mode

Memory playback stops.

Image data modified with personal computers or shot with other equipment

You may not be able to copy them with your camcorder.

If you press the DISPLAY button in the standby or recording mode

You can see memory playback and the file name indicators in addition to the indicators pertinent to Hi8 Hi8 DigitalS tapes, such as the time code indicator.

When copying

You cannot copy the image recorded on "Memory Stick" with titles to tapes.

Копирование изображений, записанных на "Memory Stick", на ленты

Во время копирования

Вы не можете оперировать следующими кнопками: MEMORY PLAY, MEMORY INDEX, MEMORY DELETE, MEMORY MIX, MEMORY + и MEMORY -.

Примечание по индексному экрану

Вы не можете записать индексный экран.

Если Вы нажмете кнопки EDITSEARCH в режиме паузы

Воспроизведение из памяти остановится.

Данные изображения, преобразованного с помощью персонального компьютера или снятого с помощью другого аппарата

Возможно, Вы не сможете их скопировать с помощью Вашей видеокамеры.

Если Вы нажмете кнопку DISPLAY в режиме ожидания или записи

Вы можете увидеть воспроизведение из памяти и индикаторы названий файлов в дополнение к индикаторам, отнесенным к лентам Hi8 Hi8 DigitalS, таким как индикатор кода времени.

При копировании

Вы не можете копировать изображения, записанные на "Memory Stick", с титрами на ленты.

Enlarging recorded still images on "Memory Stick" - Memory PB ZOOM

You can enlarge still images recorded on a "Memory Stick".

Before operation

Insert a "Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

Make sure that the LOCK is set to the right (unlock) position.

(2) Press PB ZOOM on your camcorder while you are playing back images recorded on "Memory Stick". The still image is enlarged, and ↑↓ appears on the LCD screen or in the viewfinder.

(3) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.

↑↓: The image moves downwards.

←→: The image moves upwards.

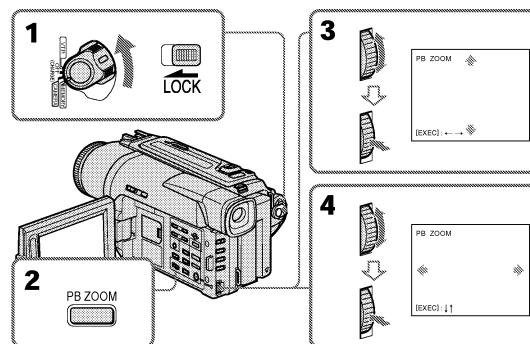
(4) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.

←→: The image moves rightward.

(Turn the dial downward.)

→: The image moves leftward.

(Turn the dial upward.)



To cancel memory PB ZOOM function

Press PB ZOOM.

Pictures processed by PB ZOOM function

Pictures processed by PB ZOOM function are not output through the DV IN/OUT or DV OUT jack.

Увеличение неподвижных записанных изображений на "Memory Stick" - Память PB ZOOM

Вы можете увеличивать изображения, записанные на "Memory Stick".

Перед операцией

Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY или VTR. Убедитесь, что переключатель LOCK установлен в правое (не зафиксированное) положение.

(2) Нажмите кнопку PB ZOOM на Вашей видеокамере во время воспроизведения изображений, записанных на "Memory Stick". Неподвижное изображение будет увеличено, а на экране ЖКД или в видоискателе появится индикация ↑↓.

(3) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.

↑↓: Изображение перемещается вниз.

←→: Изображение перемещается вверх.

(4) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.

←→: Изображение перемещается вправо.

(Поверните диск вниз)

→: Изображение перемещается влево.

(Поверните диск вверх)

Для отмены функции PB ZOOM

Нажмите кнопку PB ZOOM.

Изображения, обрабатываемые с помощью функции PB ZOOM

Изображения, обработанные с помощью функции PB ZOOM, не передаются через гнездо DV IN/OUT или DV OUT.

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Playing back images in a continuous loop - SLIDE SHOW

You can automatically play back images in sequence. This function is useful especially when checking recorded images or during a presentation.

Before operation

Insert a "Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.

(2) Press MENU to make the menu display appear.

(3) Turn the SEL/PUSH EXEC dial to select [].

(4) Turn the SEL/PUSH EXEC dial to select SLIDE SHOW, then press the dial.

(5) Press MEMORY PLAY. Your camcorder plays back the images recorded on the "Memory Stick" in sequence.

Воспроизведение изображений в непрерывной последовательности по замкнутому циклу - SLIDE SHOW

Вы можете автоматически воспроизводить изображения в непрерывной последовательности. Эта функция является полезной особенно при проверке записанных изображений или во время презентации.

Перед началом работы

Вставьте "Memory Stick" в Вашу видеокамеру.

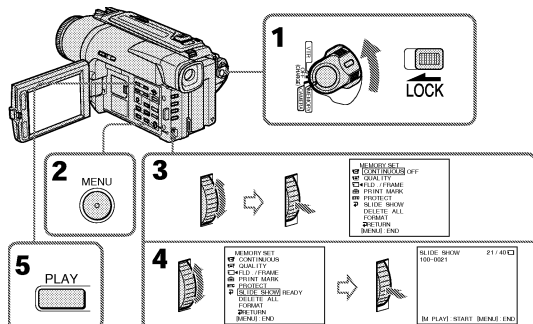
(1) Установите переключатель POWER в положение MEMORY. Убедитесь, что фиксатор LOCK установлен в правое (незафиксированное) положение.

(2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.

(3) Поверните диск SEL/PUSH EXEC для выбора установки [], а затем нажмите диск.

(4) Поверните диск SEL/PUSH EXEC для выбора установки SLIDE SHOW, а затем нажмите диск.

(5) Нажмите кнопку MEMORY PLAY. Ваша видеокамера будет воспроизводить изображения, записанные на "Memory Stick", в непрерывной последовательности.



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Playing back images in a continuous loop - SLIDE SHOW

To stop the slide show

Press MENU.

To pause during a slide show

Press MEMORY PLAY.

To start the slide show from a particular image

Select the desired image using MEMORY +/- buttons before step 2.

To view the recorded images on TV

Connect your camcorder to a TV with the A/V connecting cable supplied with your camcorder before operation.

If you change the "Memory Stick" during operation

The slide show does not operate. If you change the "Memory Stick", be sure to follow the steps again from the beginning.

Воспроизведение изображений в непрерывной последовательности по замкнутому циклу - SLIDE SHOW

Для остановки показа слайдов

Нажмите кнопку MENU.

Для паузы во время показа слайдов

Нажмите кнопку MEMORY PLAY.

Для начала показа слайдов с определенного изображения

Выберите нужное изображение с помощью кнопок MEMORY +/- перед пунктом 2.

Для просмотра записанных изображений на экране телевизора

Перед началом процедуры подсоедините Вашу видеокамеру к телевизору с помощью соединительного кабеля аудио/видео, прилагаемого к Вашей видеокамере.

В случае замены "Memory Stick" во время просмотра

Показ слайдов приостановится. В случае замены "Memory Stick" Вам следует начать действия сначала.

"Memory Stick" operations
Операции с "Memory Stick"

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"Memory Stick" operations
Операции с "Memory Stick"



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Preventing accidental erasure - Image protection

To prevent accidental erasure of important images, you can protect selected images.

Before operation

Insert a "Memory Stick" into your camcorder.



- (1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
- (2) Play back the image you want to protect (p. 119).
- (3) Press MENU to make the menu display appear.
- (4) Turn the SEL/PUSH EXEC dial to select , then press the dial.
- (5) Turn the SEL/PUSH EXEC dial to select PROTECT, then press the dial.
- (6) Turn the SEL/PUSH EXEC dial to select ON, then press the dial.
- (7) Press MENU to erase the menu display. The  mark is displayed beside the data file name of the protected image.

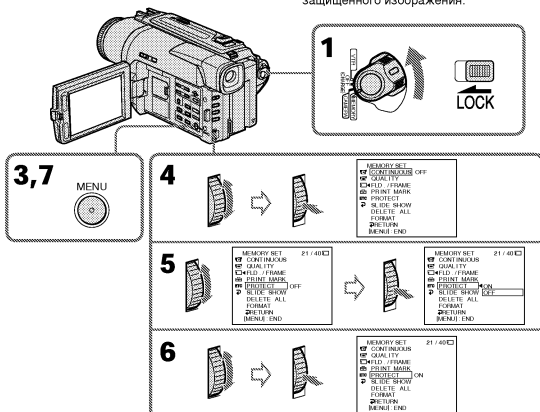
Предотвращение случайного стирания - Защита изображения

Для предотвращения случайного стирания важных изображений Вы можете защитить выбранные изображения.

Перед началом работы

Вставьте "Memory Stick" в Вашу видеокамеру.

- (1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
- (2) Воспроизведите изображение, которое Вы хотите защитить (стр. 119).
- (3) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
- (4) Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
- (5) Поверните диск SEL/PUSH EXEC для выбора установки PROTECT, а затем нажмите диск.
- (6) Поверните диск SEL/PUSH EXEC для выбора установки ON, а затем нажмите диск.
- (7) Нажмите кнопку MENU для стирания индикации меню. На дисплее появится знак  рядом с названием файла данных защищенного изображения.



Preventing accidental erasure - Image protection

To cancel image protection

Select OFF in step 6, then press the SEL/PUSH EXEC dial.

Note

Formatting erases all information on the "Memory Stick", including the protected image data. Check the contents of the "Memory Stick" before formatting.

If the write-protect tab on the "Memory Stick" is set to LOCK

You cannot carry out image protection.

Предотвращение случайного стирания - Защита изображения

Для отмены защиты изображения

Выберите установку OFF в пункте 6, а затем нажмите диск SEL/PUSH EXEC.

Примечание

Форматирование стирает всю информацию на "Memory Stick", включая данные защищенного изображения. Проверьте содержание "Memory Stick" перед форматированием.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK Вы не сможете выполнить защиту изображения.

"Memory Stick" operations

Операции с "Memory Stick"

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Deleting images

You can delete images stored in a "Memory Stick."

Before operation

Insert a "Memory Stick" into your camcorder.

Deleting selected images

- (1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
- (2) Play back the image you want to delete (p. 119).
- (3) Press MEMORY DELETE. "DELETE?" appears on the LCD screen.
- (4) Press MEMORY DELETE again. The selected image is deleted.

Удаление изображений

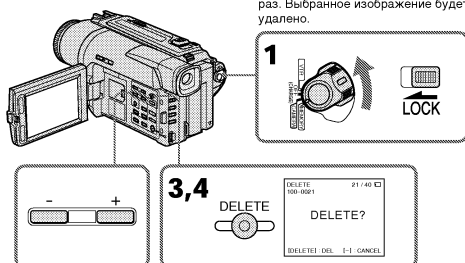
Вы можете удалить изображения, хранимые на "Memory Stick".

Перед началом работы

Вставьте "Memory Stick" в Вашу видеокамеру.

Удаление выбранных изображений


- (1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
- (2) Воспроизведите изображение, которое Вы хотите удалить (стр. 119).
- (3) Нажмите кнопку MEMORY DELETE с помощью заостренного предмета. На экране ЖКД появится индикация "DELETE?".
- (4) Нажмите кнопку MEMORY DELETE еще раз. Выбранное изображение будет удалено.



To cancel deleting an image

Press MEMORY - in step 4.

To delete an image displayed on the index screen


Press MEMORY +/- to move the  indicator to the desired image and follow steps 3 and 4.

Notes

- To delete a protected image, first cancel image protection.
- Once you delete an image, you cannot restore it. Check the images to delete carefully before deleting them.

Для отмены удаления изображения

Нажмите кнопку MEMORY - в пункте 4.

Для отмены изображения, отображаемого на индексном экране. Нажмите кнопку MEMORY +/- для перемещения индикатора  к нужному изображению и выполните действия пунктов 3 и 4.


Примечания

- Для удаления защищенного изображения, сначала отмените защиту изображения.
- После удаления изображения Вы не сможете восстановить его. Проверьте изображения внимательно, прежде чем удалить их.

Deleting images

Deleting all the images


You can delete all the unprotected images in the "Memory Stick".

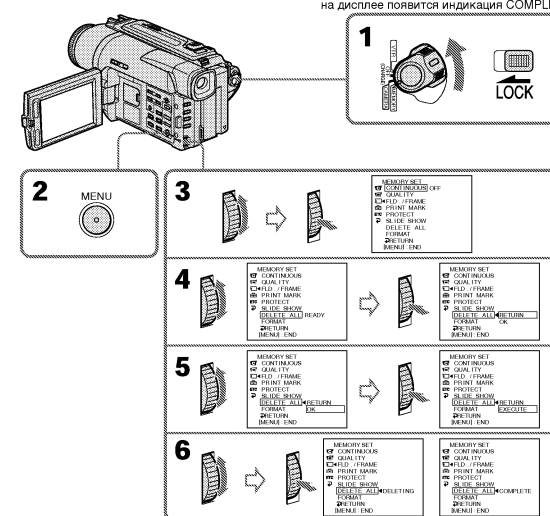
- (1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
- (2) Press MENU to make the menu display appear.
- (3) Turn the SEL/PUSH EXEC dial to select , then press the dial.
- (4) Turn the SEL/PUSH EXEC dial to select DELETE ALL, then press the dial.
- (5) Turn the SEL/PUSH EXEC dial to select OK, then press the dial. OK changes to EXECUTE.
- (6) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial. DELETING appears on the LCD screen. When all the unprotected images are deleted, COMPLETE is displayed.

Удаление изображений

Удаление всех изображений

Вы можете удалить все незащищенные изображения на "Memory Stick".

- (1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
- (2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
- (3) Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
- (4) Поверните диск SEL/PUSH EXEC для выбора установки DELETE ALL, а затем нажмите диск.
- (5) Поверните диск SEL/PUSH EXEC для выбора установки OK, а затем нажмите диск. Индикация OK изменится на индикацию EXECUTE.
- (6) Поверните диск SEL/PUSH EXEC для выбора установки EXECUTE, а затем нажмите диск. На экране ЖКД появится индикация DELETING. Когда все незащищенные изображения будут удалены, на дисплее появится индикация COMPLETE.



"Memory Stick" operations

Операции с "Memory Stick"

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Deleting images

To cancel deleting all the images in the "Memory Stick"

Select RETURN in step 5, then press the SEL/PUSH EXEC.

While DELETING appears

Do not turn the POWER switch or press any buttons.

If the write-protect tab on the "Memory Stick" is set to LOCK

You cannot delete images.

Удаление изображений

Для отмены удаления всех изображений на "Memory Stick"

Выберите установку RETURN в пункте 5, а затем нажмите кнопку SEL/PUSH EXEC.

Во время отображения индикации DELETING

Не изменяйте положение переключателя POWER и не нажимайте каких-либо кнопок.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK

Вы не можете удалить изображения.



Writing a print mark – PRINT MARK

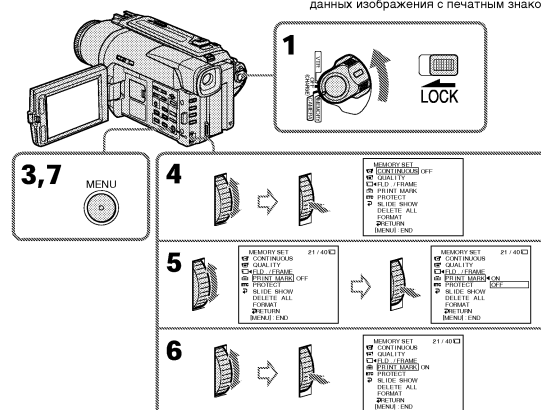
You can specify the recorded still image to print out. This function is useful for printing out still images later.

Your camcorder conforms with the DPOF (Digital Print Order Format) standard for specifying the still images to print out.

Before operation

Insert a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
- (2) Play back the image you want to write a print mark (p. 119).
- (3) Press MENU to display the menu.
- (4) Turn the SEL/PUSH EXEC dial to select , then press the dial.
- (5) Turn the SEL/PUSH EXEC dial to select PRINT MARK, then press the dial.
- (6) Turn the SEL/PUSH EXEC dial to select ON, then press the dial.
- (7) Press MENU to erase the menu display. The  mark is displayed beside the data file name of the image with a print mark.





Запись печатных знаков – PRINT MARK

Вы можете указать записанные изображения для распечатки. Эта функция является полезной для распечатки неподвижных изображений позже.

Ваша видеокамера соответствует стандарту DPOF (цифровой служебный формат распечатки) для указания неподвижных изображений для распечатки.

Перед началом работы

Вставьте "Memory Stick" в Вашу видеокамеру.

- (1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
- (2) Воспроизведите изображение, на котором Вы хотите записать печатный знак. (стр. 119)
- (3) Нажмите кнопку MENU, чтобы на дисплее появилось Меню.
- (4) Поверните диск SEL/PUSH EXEC для выбора установки , а затем нажмите диск.
- (5) Поверните диск SEL/PUSH EXEC для выбора установки PRINT MARK, а затем нажмите диск.
- (6) Поверните диск SEL/PUSH EXEC для выбора установки ON, а затем нажмите диск.
- (7) Нажмите кнопку MENU для стирания индикации меню. На дисплее появится знак  рядом с названием файла данных изображения с печатным знаком.

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Writing a print mark – PRINT MARK

To cancel writing print marks

Select OFF in step 6, then press the SEL/PUSH EXEC dial.

If the write-protect tab on the "Memory Stick" is set to LOCK

You cannot write print marks on still images.

Запись печатных знаков – PRINT MARK

Для отмены записи печатных знаков

Выберите установку OFF в пункте 6, а затем нажмите диск SEL/PUSH EXEC.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK Вы не можете записать печатные знаки на неподвижные изображения.

— Additional Information —

Digital8 system, recording and playback

What is the "Digital8 system"?

This video system has been developed to enable digital recording to Hi8 Hi8/Digital8 video cassette.

Usable cassette tapes

We recommend using Hi8 Hi8/Digital8 video cassette.

The recording time when you use your Digital8 system camcorder on Hi8 Hi8/standard 8 tape is half the recording time when using the conventional Hi8 Hi8/standard 8 system camcorder. (120 minutes of recording time becomes 60 minutes in the SP mode.)

* If you use standard 8 tape, be sure to play back the tape on this camcorder. Mosaic pattern noise may appear when you play back standard 8 tape on other VCRs (including other DCR-TRV420E/TRV520E/TRV620E).

Note

Tapes recorded in the Digital8 system cannot be played back on Hi8 Hi8/standard 8 (analog) system machine.

Hi8 is a trademark.

Hi8 is a trademark.

Hi8 is a trademark.

Playback system

The Digital8 system or Hi8 Hi8/standard 8 system is automatically detected before the tape is played back.

During playback of tapes recorded in the Hi8 Hi8/standard 8 system, digital signals are output as the image signals from the DV IN/OUT or DV OUT jack.

Display during automatic detection of system

The Digital8 system or Hi8 Hi8/standard 8 system is automatically detected, and the playback system is automatically switched to. During switching of systems, the screen turns blue, and the following displays appear. A hissing noise also sometimes can be heard.

Hi8 → Hi8: During switching from Digital8 to Hi8 Hi8/standard 8.
Hi8 → Hi8: During switching from Hi8 Hi8/standard 8 to Digital8.

When you play back

Playing back an NTSC-recorded tape

You can play back tapes recorded in the NTSC video system on the LCD screen, if the tape is recorded in the SP mode.

— Дополнительная информация —

Цифровая система Digital8, запись и воспроизведение

Что такое "Цифровая система Digital8"?

Эта видеосистема была разработана для обеспечения цифровой записи на видеокассеты Hi8 Hi8/Digital8.

Используемые кассеты

Рекомендуется использовать видеокассеты Hi8 Hi8/Digital8. Время записи при использовании Вашей видеокамеры системы Digital8 на ленте Hi8 Hi8/стандартной ленте 8 в два раза меньше, чем при использовании обычной видеокамеры Hi8 Hi8/стандартной системы 8 (120 минут времени записи становятся равными 60 минутам в режиме SP).

При использовании стандартной ленты 8, ее следует воспроизводить на этой же видеокамере. При воспроизведении стандартной ленты 8 на других VCR (включая другие аппараты DCR-TRV420E/TRV520E/TRV620E) могут появиться помехи типа мозаики.

Примечание

Ленты, записанные в цифровой системе Digital8, не могут быть воспроизведены на аппаратуре системы Hi8 Hi8/стандартной системы 8 (аналоговой).

Hi8 является фирменным знаком.

Hi8 является фирменным знаком.

Hi8 является фирменным знаком.

Система воспроизведения

Цифровая система Digital8 или Hi8 Hi8/стандартная система 8 автоматически детектируется перед воспроизведением ленты. Во время воспроизведения лент, записанных в системе Hi8 Hi8/стандартной системе 8, цифровые сигналы выводятся в качестве сигналов изображения через гнездо DV IN/OUT или DV OUT.

Индикация во время автоматического детектирования системы

Цифровая система Digital8 или Hi8 Hi8/стандартная система 8 автоматически детектируется, а система воспроизведения автоматически включается. Во время выключения систем, экран становится голубым и появляются следующие индикации. Может быть также слышен свистящий шум.

Hi8 → Hi8: Во время переключения с системы Digital8 на систему Hi8 Hi8/стандартную систему 8.
Hi8 → Hi8: Во время переключения с системы Hi8 Hi8/стандартной системы 8 на цифровую систему Digital8.

При воспроизведении

Воспроизведение лент, записанных в системе NTSC

Вы можете воспроизводить ленты, записанные в видеосистеме NTSC, на экране ЖКД, если лента записана в режиме SP.

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Digital8 system, recording and playback

Copyright signal

When you play back


Using any other video camera recorder, you cannot record on a tape that has recorded copyright control signals for copyright protection of software which is played back on your camcorder.

When you record

You cannot record software on your camcorder that contains copyright control signals for copyright protection of software. COPY INHIBIT appears on the LCD screen, in the viewfinder or on the TV screen if you try to record such as software. Your camcorder does not record copyright control signals on the tape when it records.

When you playback a dual sound track tape

When you use tapes recorded in the Digital8 system

When you play back a Digital8  system tape which is dubbed from a dual sound track tape recorded in the DV system, set "HiFi SOUND" to the desired mode in the menu settings (p. 85).

Sound from speaker

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Lch	Main sound
2	Rch	Sub sound

When you use a tape recorded in the Hi8/standard 8 system

When you play back a dual sound track tape recorded in an AFM HiFi stereo system, set "HiFi SOUND" to the desired mode in the menu settings (p. 85).

Sound from speaker

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Monaural	Main sound
2	Unnatural Sound	Sub sound

You cannot record dual sound programmes on your camcorder.

Цифровая система Digital8 , запись и воспроизведение

Сигнал авторского права

При воспроизведении


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При воспроизведении ленты с двойной звуковой дорожкой

При использовании лент, записанных в цифровой системе Digital8

При воспроизведении ленты в цифровой системе Digital8  на которую выполнена перезапись ленты с двойной звуковой дорожкой, записанной в цифровой видеосистеме DV, установите команду "HiFi SOUND" в нужный режим в установках меню (стр. 85).

Звук от динамика

Режим звучания	Воспроизведение стереофонической ленты	Воспроизведение ленты с двойной звуковой дорожкой
STEREO	Стереофонический звук	Основной звук и вспомогательный звук
1	Левый канал	Основной звук
2	Правый канал	Вспомогательный звук

При использовании лент, записанных в системе Hi8/стандартной системе 8

При воспроизведении ленты с двойной звуковой дорожкой, записанной в стереофонической системе AFM HiFi, установите команду "HiFi SOUND" в нужный режим в установках меню (стр. 85).

Звук от динамика

Режим звучания	Воспроизведение стереофонической ленты	Воспроизведение ленты с двойной звуковой дорожкой
STEREO	Стереофонический звук	Основной звук и вспомогательный звук
1	Монофонический звук	Основной звук
2	Необычный звук	Вспомогательный звук

Вы не можете записывать программы с двойным звучанием на Вашей видеокамере.

About i.LINK

The DV jack on this unit is an i.LINK-compliant DV input/output jack. This section describes the i.LINK standard and its features.

What is "i.LINK"?

i.LINK is a digital serial interface for handling digital video, digital audio and other data in two directions between equipment having the i.LINK jack, and for controlling other equipment.

i.LINK-compatible equipment can be connected by a single i.LINK cable. Possible applications are operations and data transactions with various digital AV equipment.

When two or more i.LINK-compatible equipment are connected to this unit in a daisy chain, operations and data transactions are possible with not only the equipment that this unit is connected to but also with other devices via the directly connected equipment. Note, however, that the method of operation sometimes varies according to the characteristics and specifications of the equipment having two or more i.LINK jacks (DV jacks) to be connected, and that operations and data transactions are sometimes not possible on some connected equipment.

Note

Normally, only one piece of equipment can be connected to this unit by the i.LINK cable (DV cable). When connecting this unit to two or more i.LINK-compatible equipment, refer to the instruction manual of the equipment to be connected.

About the Name "i.LINK"

i.LINK is a more familiar term for IEEE 1394 data transport bus proposed by SONY, and is a trademark approved by many corporations. IEEE 1394 is an international standard standardized by the Institute of Electrical and Electronic Engineers.

Относительно i.LINK

Цифровое гнездо DV на данном аппарате удовлетворяет стандарту i.LINK и является совместимым с входным/выходным гнездом цифровых видеосигналов DV. В этом разделе описан стандарт i.LINK и его основные особенности.

Что такое "i.LINK"?

i.LINK является цифровым последовательным интерфейсом для управления цифровыми видеосигналами, цифровыми аудиосигналами и другими данными в двух направлениях между аппаратами, имеющими гнезда i.LINK, а также для управления другими аппаратами. i.LINK-совместимый аппарат можно подсоединить с помощью одного кабеля i.LINK. Возможные применения этой функции охватывают операции и передачи данных с разными цифровыми аудиовидеоаппаратами. Если к данному аппарату подсоединены два или более i.LINK-совместимых аппарата в последовательной цепи, то возможны операции и передачи данных не только с подсоединенным аппаратом, но и с другими аппаратами через непосредственно подсоединенный аппарат. Однако имейте в виду, что метод управления иногда отличается в зависимости от характеристики и технических данных подсоединяемого аппарата с двумя или более гнездами i.LINK (гнезда DV), и что операции и передачи данных иногда невозможны на некоторых подсоединяемых аппаратах.

Примечание

Обычно, только один аппарат можно подсоединить к данному аппарату с помощью кабеля i.LINK (цифрового кабеля DV). При подсоединении данного аппарата к двум или более i.LINK-совместимым аппаратам изучите руководство по эксплуатации соответствующего подсоединяемого аппарата.


Относительно названия "i.LINK"

i.LINK является более привычным термином для шины передачи данных IEEE 1394, предложенной фирмой SONY, и он является фирменным знаком, утвержденным многими корпорациями.

IEEE 1394 является международным стандартом, утвержденным Институтом инженеров по электротехнике и электронике.

Changing the lithium battery in your camcorder

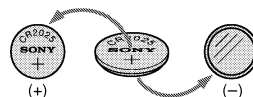
When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date, time and other items in the menu settings hold in memory by the lithium battery.

Insert the battery with the positive (+) side facing out. When the battery becomes weak or dead, the  indicator flashes on the LCD screen or in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA or MEMORY. In this case, **replace the battery with a Sony CR2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** Discard used batteries according to the manufacturer's instructions.

Замена литиевой батарейки в Вашей видеокамере

При замене литиевой батарейки батарейный блок или другой источник питания должен быть прикреплен к видеокамере. В противном случае Вам понадобится переустанавливать дату, время и другие пункты в установках меню, хранимых в памяти видеокамеры с помощью литиевой батарейки.

Вставьте батарейку так, чтобы положительный (+) полюс был обращен наружу. Если батарейка станет или разрядится, индикатор  будет мигать на экране ЖКД или в видискателе около 5 секунд, если переключатель POWER установлен в положение CAMERA или MEMORY. В этом случае, **замените батарейку на литиевую батарейку Sony CR2025. Использование какой-либо другой батарейки может представлять риск воспламенения или взрыва. Ликвидируйте использованные батарейки в соответствии с инструкциями предприятия-изготовителя.**



WARNING

The battery may explode if mistreated. Do not recharge, disassemble, nor dispose of it in fire.

Lithium battery

- Keep the lithium battery out of the reach of children.
- Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to ensure good contact.

Lithium battery installed at the factory

This battery may not last 1 year.

ВНИМАНИЕ

Если с батарейкой неправильно обращаться, она может взорваться. Не перезаряжайте, не разбирайте и не бросайте в огонь батарейку.

Литиевая батарейка

- Храните литиевую батарейку в месте, не доступном для детей.
- В случае, если кто-либо случайно проглотит батарейку, следует немедленно обратиться к врачу.
- Протрите батарейку сухой тканью для обеспечения хорошего контакта.

Литиевая батарейка, установленная на заводе

Этой батарейки может не хватить на 1 год

About i.LINK

i.LINK Baud rate

i.LINK's maximum baud rate varies according to the equipment. Three maximum baud rates are defined:

S100 (approx. 100Mbps*)
S200 (approx. 200Mbps)
S400 (approx. 400Mbps)

The baud rate is listed under "Specifications" in the instruction manual of each equipment. It is also indicated near the i.LINK jack on some equipment.

The maximum baud rate of equipment on which it is not indicated such as this unit is "S100". When units are connected to equipment having a different maximum baud rate, the baud rate sometimes differs from the indicated baud rate.

* What is "Mbps"?

Mbps stands for megabits per second, or the amount of data that can be sent or received in one second. For example, a baud rate of 100Mbps means that 100 megabits of data can be sent in one second.

i.LINK Functions on this unit

For details on how to dub when this unit is connected to other video equipment having DV jacks, see page 75. This unit can also be connected to other i.LINK (DV) compatible equipment made by SONY (e.g. VAO series personal computer) other than video equipment.

Before connecting this unit to a personal computer, make sure that application software supported by this unit is already installed on the personal computer.

For details on precautions when connecting this unit, also refer to the instruction manuals for the equipment to be connected.

Required i.LINK Cable

Use the Sony i.LINK 4-pin-to-4-pin cable (during DV dubbing).

i.LINK and  are trademarks.

Относительно i.LINK

Скорость передачи i.LINK

Максимальная скорость передачи i.LINK изменяется в зависимости от аппарата. Имеются три максимальные скорости передачи:

S100 (приблиз. 100 Мбит/с*)
S200 (приблиз. 200 Мбит/с)
S400 (приблиз. 400 Мбит/с)

Скорость передачи указывается в разделе "Технические характеристики" в руководстве по эксплуатации каждого аппарата. На некоторых аппаратах она может быть также указана возле гнезда i.LINK. Максимальная скорость передачи аппарата, на котором она не указана, например, для данного аппарата, равна "S100". В случае, если аппараты подсоединяются к оборудованию с другой максимальной скоростью передачи, то скорость передачи иногда может отличаться от указанной скорости передачи.

* Что такое "Мбит/с"?


Мбит/с означает количество мегабит за секунду или количество данных, которое можно посылать или принимать за одну секунду. Например, скорость передачи 100 Мбит/с означает, что 100 мегабит данных может быть послано за одну секунду.

Функции i.LINK на данном аппарате

Подробные сведения о том, как выполнять перезапись, когда данный аппарат подсоединен к другому видеооборудованию с гнездами DV, см. на стр. 75. Данный аппарат может быть также подсоединен к другому i.LINK (DV)-совместимому оборудованию фирмы SONY (например, персональному компьютеру серии VAO), не относящемуся к видеоаппаратуре. Перед подсоединением данного аппарата к персональному компьютеру убедитесь, что на компьютере уже установлено программное приложение, поддерживаемое данным аппаратом. Подробные сведения относительно мер предосторожности при подсоединении данного аппарата приведены также в руководстве по эксплуатации для каждого подсоединяемого аппарата.

Требуемый кабель i.LINK

Используйте 4-штырьковый-к-4-штырьковому кабель i.LINK фирмы Sony (во время цифровой видеоперезаписи)

i.LINK и  являются фирменными знаками.

Additional Information

Дополнительная информация

Additional Information

Дополнительная информация

Changing the lithium battery in your camcorder

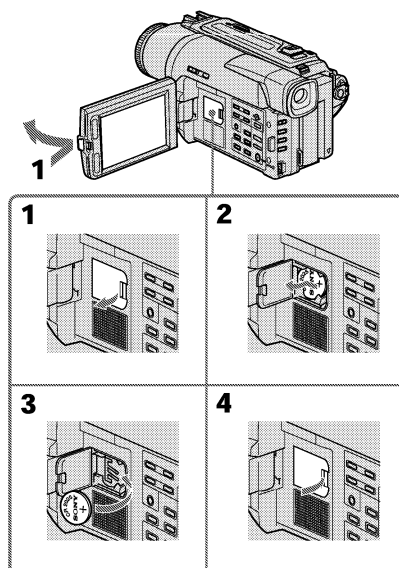
Changing the lithium battery

- (1) Open the LCD panel and open the lid of the lithium battery compartment.
- (2) Push the lithium battery in the direction of the arrow and pull it out from the holder.
- (3) Install a Sony CR2025 lithium battery with the positive (+) side facing out.
- (4) Close the lid.

Замена литиевой батарейки в Вашей видеокамере

Замена литиевой батарейки

- (1) Откройте панель ЖКД и откройте крышку отсека для литиевой батарейки.
- (2) Нажмите литиевую батарейку в направлении стрелки и выньте ее из держателя.
- (3) Установите литиевую батарейку Sony CR2025 так, чтобы положительный (+) полюс был обращен наружу.
- (4) Закройте крышку.



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English

Troubleshooting

If you run into any problem using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer or local authorized Sony service facility. If "C:□□□□" appears on the LCD screen, in the viewfinder or the display window, the self-diagnosis display function has worked. See page 146.

In the recording mode

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	<ul style="list-style-type: none"> The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) or MEMORY. → Set it to CAMERA. (p. 21) The tape has run out. → Rewind the tape or insert a new one. (p. 19, 33) The write-protect tab is set to expose the red mark. → Use a new tape or slide the tab. (p. 20) The tape is stuck to the drum (moisture condensation). → Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)
The power goes off.	<ul style="list-style-type: none"> While being operated in CAMERA mode, your camcorder has been in the standby mode for more than 3 minutes. → Set the POWER switch to OFF (CHARGE) and then to CAMERA again. (p. 21)
The image on the viewfinder screen is not clear.	<ul style="list-style-type: none"> The viewfinder lens is not adjusted. → Adjust the viewfinder lens. (p. 25)
The SteadyShot function does not work.	<ul style="list-style-type: none"> STEADYSHOT is set to OFF in the menu settings. → Set it to ON. (p. 85)
The autofocusing function does not work.	<ul style="list-style-type: none"> FOCUS is set to MANUAL. → Set it to AUTO. (p. 57) Shooting conditions are not suitable for autofocus. → Set FOCUS to MANUAL, to focus manually. (p. 57)
The fader function does not work.	<ul style="list-style-type: none"> The digital effect function is working. → Cancel it. (p. 53)
The picture does not appear in the viewfinder.	<ul style="list-style-type: none"> The LCD panel is open. → Close the LCD panel. (p. 23)
You cannot record in the LP mode.	<ul style="list-style-type: none"> The tape is the standard 8 tape. → Use Hi8/Hi8i/Digital8 tapes. (p. 89)
A vertical band appears when you shoot a subject such as lights or a candle flame against a dark background.	<ul style="list-style-type: none"> The contrast between the subject and background is too high. This is not a malfunction.
A vertical band appears when you shoot a very bright subject.	<ul style="list-style-type: none"> This is not a malfunction.

Additional Information

Дополнительная информация

Troubleshooting

Symptom	Cause and/or Corrective Actions
Some tiny white spots appear on the LCD screen or in the viewfinder.	<ul style="list-style-type: none"> Slow shutter, low lux or Super NightShot mode is activated. This is not a malfunction.
An unknown picture is displayed on the LCD screen or in the viewfinder.	<ul style="list-style-type: none"> If 10 minutes elapse after you set the POWER switch to CAMERA or DEMO MODE is set to ON in the menu settings without a cassette inserted, your camcorder automatically starts the demonstration. → Insert a cassette and the demonstration stops. You can also cancel DEMO MODE. (p. 90)
The picture is recorded in incorrect or unnatural colours.	<ul style="list-style-type: none"> NIGHTSHOT is set to ON. → Set it to OFF. (p. 28)
Picture appears too bright, and the subject does not appear on the LCD screen or in the viewfinder.	<ul style="list-style-type: none"> NIGHTSHOT is set to ON in a bright place. → Set it to OFF, or use the NightShot function in a dark place. (p. 28)
A horizontal black band appears when shooting a TV screen or computer screen.	<ul style="list-style-type: none"> Set STEADYSHOT to OFF in the menu settings (p. 85).

In the playback mode

Symptom	Cause and/or Corrective Actions
The tape does not move when a video control button is pressed.	<ul style="list-style-type: none"> The POWER switch is set to CAMERA, MEMORY or OFF (CHARGE). → Set it to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). (p. 33)
The playback button does not work.	<ul style="list-style-type: none"> The tape has run out. → Rewind the tape. (p. 33)
There are horizontal lines on the picture or the playback picture is not clear or does not appear.	<ul style="list-style-type: none"> The video head may be dirty. → Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 159)
No sound or only a low sound is heard when playing back a tape.	<ul style="list-style-type: none"> The stereo tape is played back with HiFi SOUND set to 2 in the menu settings. → Set it to STEREO. (p. 85) The volume is turned to minimum. → Open the LCD panel and press VOLUME +. (p. 33) AUDIO MIX is set to ST2 side in the menu settings. → Adjust AUDIO MIX. (p. 85)
The date search does not work correctly.	<ul style="list-style-type: none"> The tape has a blank portion in the recorded portion (p. 69)
The picture which is recorded in the Digital8 system is not played back.	<ul style="list-style-type: none"> PB MODE is set to Hi8/Hi8i in the menu settings. → Set it to AUTO. (p. 85)
The tape which is recorded in the Hi8/standard 8 system is not played back correctly.	<ul style="list-style-type: none"> PB MODE is set to Hi8/Hi8i in the menu settings. (p. 85)

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Troubleshooting

In the recording and playback modes

Symptom	Cause and/or Corrective Actions
The power does not turn on.	<ul style="list-style-type: none"> The battery pack is not installed, or is dead or nearly dead. → Install a charged battery pack. (p. 12, 13) The AC power adaptor is not connected to the mains. → Connect the AC power adaptor to the mains. (p. 18)
The end search function does not work.	<ul style="list-style-type: none"> The tape was ejected after recording. You have not recorded on the new cassette yet.
The end search function does not work correctly.	<ul style="list-style-type: none"> The tape has a blank portion in the beginning or middle.
The battery pack is quickly discharged.	<ul style="list-style-type: none"> The operating temperature is too low. The battery pack is not fully charged. → Charge the battery pack fully again. (p. 13) The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack. (p. 12)
The battery remaining indicator does not indicate the correct time.	<ul style="list-style-type: none"> You have used the battery pack in an extremely hot or cold environment for a long time. The battery pack is completely dead, and cannot be recharged. → Replace with a new battery pack. (p. 12) The battery is dead. → Use a charged battery pack. (p. 12, 13)
The power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate.	<ul style="list-style-type: none"> Charge the battery pack fully again so that the indication on the battery remaining indicator is correct.
The cassette cannot be removed from the holder.	<ul style="list-style-type: none"> The power source is disconnected. → Connect it firmly. (p. 13, 18) The battery is dead. → Use a charged battery pack. (p. 12, 13)
The [] and [] indicators flash and no functions except for cassette ejection work.	<ul style="list-style-type: none"> Moisture condensation has occurred. → Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)

Additional Information

Дополнительная информация

(Continued on the following page) 143

Troubleshooting

When operating using the "Memory Stick"

Symptom	Cause and/or Corrective Actions
The "Memory Stick" does not function.	<ul style="list-style-type: none">• The POWER switch is set to CAMERA or OFF (CHARGE)<ul style="list-style-type: none">→ Set it to MEMORY. (p. 103)• "Memory Stick" is not inserted.<ul style="list-style-type: none">→ Insert a "Memory Stick". (p. 102)
Recording does not function.	<ul style="list-style-type: none">• The "Memory Stick" has already been recorded to its full capacity.<ul style="list-style-type: none">→ Erase unnecessary images and record again. (p. 130, 105)• The "Memory Stick" formatted incorrectly is inserted.<ul style="list-style-type: none">→ Format the "Memory Stick" on your camcorder or use another "Memory Stick." (p. 94)• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)
The image cannot be deleted.	<ul style="list-style-type: none">• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)• The image is protected.<ul style="list-style-type: none">→ Cancel image protection. (p. 128)
You cannot format the "Memory Stick".	<ul style="list-style-type: none">• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)
Deleting all the images cannot be carried out.	<ul style="list-style-type: none">• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)
You cannot protect the image.	<ul style="list-style-type: none">• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)• The image to protect is not played back.<ul style="list-style-type: none">→ Press MEMORY PLAY to play back the image. (p. 119)
You cannot write a print mark on the still image.	<ul style="list-style-type: none">• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)• The image to write a print mark is not played back.<ul style="list-style-type: none">→ Press MEMORY PLAY to play back the image. (p. 119)
The photo save function does not work.	<ul style="list-style-type: none">• The write-protect tab on the "Memory Stick" is set to LOCK.<ul style="list-style-type: none">→ Release the lock. (p. 100)

Troubleshooting

Others

Symptom	Cause and/or Corrective Actions
The Remote Commander supplied with your camcorder does not work.	<ul style="list-style-type: none">• COMMANDER is set to OFF in the menu settings.<ul style="list-style-type: none">→ Set it to ON. (p. 85)• Something is blocking the infrared rays<ul style="list-style-type: none">→ Remove the obstacle• The batteries are inserted in the battery holder with the + - polarities incorrectly matching the + - marks.<ul style="list-style-type: none">→ Insert the batteries with the correct polarity. (p. 171)• The batteries are dead.<ul style="list-style-type: none">→ Insert new ones. (p. 171)
The picture from a TV or VCR does not appear even when your camcorder is connected to outputs on the TV or VCR.	<ul style="list-style-type: none">• DISPLAY is set to V-OUT/LCD in the menu settings.<ul style="list-style-type: none">→ Set it to LCD. (p. 85)
The melody or beep sounds for 5 seconds.	<ul style="list-style-type: none">• Moisture condensation has occurred.<ul style="list-style-type: none">→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)• Some troubles has occurred in your camcorder.<ul style="list-style-type: none">→ Remove the cassette and insert it again, then operate your camcorder.
While charging the battery pack, no indicator appears or the indicator flashes in the display window.	<ul style="list-style-type: none">• The AC power adaptor is disconnected.<ul style="list-style-type: none">→ Connect it firmly. (p. 18)• Something is wrong with the battery pack.<ul style="list-style-type: none">→ Contact your Sony dealer or local authorized Sony service facility.

Additional Information
Дополнительная информация

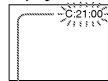
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English

Self-diagnosis display

Your camcorder has a self-diagnosis display function. This function displays the current condition of your camcorder as a 5-digit code (a combination of a letter and figures) on the LCD screen, in the viewfinder or in the display window. If a 5-digit code is displayed, check the following code chart. The last two digits (indicated by □□) will differ depending on the state of your camcorder.

LCD screen, viewfinder or display window



Self-diagnosis display

- C:□□□□
You can service your camcorder yourself.
- E:□□□□□
Contact your Sony dealer or local authorized Sony facility.

Five-digit display	Cause and/or Corrective Actions
C:04:□□	<ul style="list-style-type: none">• You are using a battery pack that is not an "InfoLITHIUM" battery pack.<ul style="list-style-type: none">→ Use an "InfoLITHIUM" battery pack. (p. 17)
C:21:□□	<ul style="list-style-type: none">• Moisture condensation has occurred.<ul style="list-style-type: none">→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)
C:22:□□	<ul style="list-style-type: none">• The video heads are dirty.<ul style="list-style-type: none">→ Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 159)
C:31:□□ C:32:□□	<ul style="list-style-type: none">• A malfunction other than the above that you can service has occurred.<ul style="list-style-type: none">→ Remove the cassette and insert it again, then operate your camcorder.→ Disconnect the mains lead of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate your camcorder.
E:61:□□ E:62:□□	<ul style="list-style-type: none">• A malfunction that you cannot service has occurred.<ul style="list-style-type: none">→ Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code. (example: E:61:10)

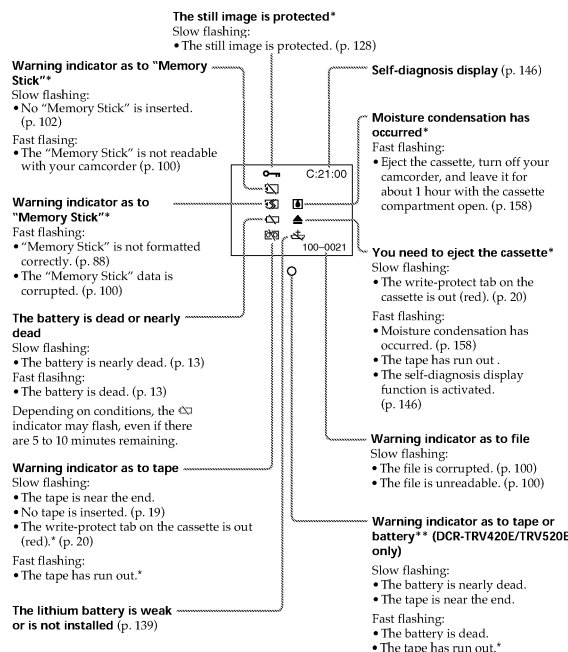
If you are unable to rectify the problem even if you try corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

English

Warning indicators and messages

If indicators and messages appear on the LCD screen, in the viewfinder or in the display window, check the following:
See the page in parentheses "()" for more information.

Warning indicators



Additional Information
Дополнительная информация

* You hear the melody or beep sound.
** This indicator appears in the viewfinder only.

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Warning indicators and messages

Warning messages

• CLOCK SET	Reset the date and time. (p. 98)
• FOR "InfoLITHIUM" BATTERY ONLY	Use an "InfoLITHIUM" battery pack. (p. 17)
• 8 mm TAPE → SP REC Hi8 TAPE → LP/SP REC	Use Hi8 Hi8/Digital 8 tapes when you record in the LP mode.* (p. 89)
• TAPE END	The tape has run out.* (p. 19)
• NO TAPE	Insert a cassette tape.* (p. 19)
• CLEANING CASSETTE**	The video heads are dirty. (p. 159)
• FULL	The "Memory Stick" is full.* (p. 107)
• LOCK	The write-protect tab on the "Memory Stick" is set to LOCK.* (p. 100)
• NO FILE	No still image is recorded on the "Memory Stick".* (p. 120)
• NO MEMORY STICK	No "Memory Stick" is inserted.* (p. 102)
• MEMORY STICK ERROR	The "Memory Stick" data is corrupted.*
• FORMAT ERROR	Check the type of formatting.*
• DIRECTORY ERROR	The "Memory Stick" has more than one directory such as 100msdcf.*

* You hear the melody or beep sound.

** The  indicator and "CLEANING CASSETTE" message appear one after another on the LCD screen or in the viewfinder.

Using your camcorder abroad

Using your camcorder abroad

You can use your camcorder in any country or area with the AC power adaptor supplied with your camcorder within 100 V to 240 V AC, 50/60 Hz.

Your camcorder is a PAL system based camcorder. If you want to view the playback picture on a TV, it must be a PAL system based TV with VIDEO/AUDIO input jack. The following shows TV colour systems used overseas.

PAL system

Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, etc.

PAL-M system

Brazil

PAL-N system

Argentina, Paraguay, Uruguay

NTSC system

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

SECAM system

Bulgaria, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

Simple setting of clock by time difference

You can easily set the clock to the local time by setting a time difference. Select WORLD TIME in the menu settings. See page 85 for more information.

Использование Вашей видеокамеры за границей

Использование Вашей видеокамеры за границей

Вы можете использовать Вашу видеокамеру в любой стране или области с помощью сетевого адаптера переменного тока, прилагаемого к Вашей видеокамере, который можно использовать в пределах от 100 В до 240 В переменного тока с частотой 50/60 Гц.

Ваша видеокамера основана на системе PAL. Если Вы хотите просмотреть воспроизводимое изображение на телевизоре, то это должен быть телевизор, основанный на системе PAL, с входными гнездами VIDEO/AUDIO. Ниже приведены системы цветного телевидения, используемые за рубежом

Система PAL

Австралия, Австрия, Бельгия, Великобритания, Германия, Голландия, Гонконг, Дания, Испания, Италия, Китай, Кувейт, Малайзия, Новая Зеландия, Норвегия, Португалия, Сингапур, Словацкая Республика, Таиланд, Финляндия, Чешская Республика, Швейцария, Швеция и т.д.

Система PAL-M

Бразилия

Система PAL-N

Аргентина, Парагвай, Уругвай

Система NTSC

Багамские острова, Боливия, Венесуэла, Канада, Колумбия, Корея, Мексика, Перу, Суринам, США, Тайвань, Филиппины, Центральная Америка, Чили, Эквадор, Ямайка, Япония и т.д.

Система SECAM

Болгария, Венгрия, Гвизана, Ирак, Иран, Монако, Польша, Россия, Украина, Франция и т.д.



Простая установка разницы во времени на часах

Вы можете легко установить часы на местное время путем установки разницы во времени. Выберите команду WORLD TIME в установках меню. Подробные сведения приведены на стр. 85.


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Maintenance information and precautions

Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, the beep sounds and the  indicator flashes. When the  indicator flashes at the same time, the cassette is inserted in your camcorder. If moisture condenses on the lens, the indicator will not appear.

If moisture condensation occurred

None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. Your camcorder can be used again if the  indicator does not appear when the power is turned on again.

Note on moisture condensation

Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a hot place as follows:



- You bring your camcorder from a ski slope into a place warmed up by a heating device.
- You bring your camcorder from an air-conditioned car or room into a hot place outside.
- You use your camcorder after a squall or a shower.
- You use your camcorder in a high temperature and humidity place.


How to prevent moisture condensation

When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and tightly seal it. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about 1 hour).

Информация по уходу за аппаратом и меры предосторожности

Конденсация влаги

Если видеокамера принесена прямо из холодного места в теплое, то внутри видеокамеры, на поверхности ленты или на объективе может произойти конденсация влаги. В таком состоянии лента может прилипнуть к барабану головки и будет повреждена или же видеокамера не сможет работать надлежащим образом. Если внутри видеокамеры произошла конденсация влаги, то прозвучит зуммерный сигнал, а на экране ЖКД будет мигать индикатор . Если в то же самое время будет мигать индикатор , это значит, что в видеокамеру вставлена кассета. Если влага сконденсировалась на объективе, индикатор появляться не будет.

Если произошла конденсация влаги
Ни одна из функций, кроме выталкивания кассеты, не будет работать. Извлеките кассету, выключите видеокамеру и оставьте ее приблизительно на 1 час с открытым кассетным отсеком. Если при повторном включении питания индикатор  не появится на дисплее, Вы можете снова пользоваться видеокамерой.

Примечание по конденсации влаги

Влага может образоваться, если Вы принесете Вашу видеокамеру из холодного места в теплое (или наоборот) или когда Вы используете Вашу видеокамеру в жарком месте в следующих случаях:
– Вы принесли Вашу видеокамеру с лыжного склона в помещение, где функционирует обогреватель.
– Вы принесли Вашу видеокамеру из автомобиля или из комнаты с воздушным кондиционированием в жаркое место на улице.
– Вы используете видеокамеру после грозы или дождя.
– Вы используете Вашу видеокамеру в очень жарком и влажном месте.

Как предотвратить конденсацию влаги
Если видеокамера принесена из холодного места в теплое, то положите видеокамеру в полиэтиленовый пакет и плотно заклейте его. Выньте видеокамеру из полиэтиленового пакета, когда температура воздуха внутри пакета достигнет температуры окружающего воздуха (приблизительно через 1 час).

Maintenance information and precautions

Maintenance information


Cleaning the LCD screen

If fingerprints or dust make the LCD screen dirty, we recommend using a LCD Cleaning Kit (not supplied) to clean the LCD screen.

Cleaning the video head

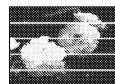
To ensure normal recording and clear pictures, clean the video heads.

When you playback/record in the Digital 8 system

The video head may be dirty when:
– mosaic-pattern noise appears on the playback picture.
– playback pictures do not move.
– playback pictures are hardly visible.
– playback pictures do not appear.
– the  indicator and "CLEANING CASSETTE" message appear one after another on the LCD screen or in the viewfinder.



or / или



When you play back in the Hi8/Standard 8 (analog) system

The video head may be dirty when:
– playback pictures contain noise.
– playback pictures are hardly visible.
– playback pictures do not appear.



or / или



If the above problems occur, clean the video heads with the Sony V8-25CLD cleaning cassette (not supplied). Check the picture and if the above problems persists, repeat cleaning.

В случае возникновения указанных выше проблем, почистите видеоголовки с помощью очистительной кассеты Sony V8-25CLD (не прилагается). Проверьте изображение и, если описанные выше проблемы не устранились, повторите чистку.

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Additional Information

Дополнительная информация

Additional Information

Дополнительная информация

Maintenance information and precautions

Precautions

Camcorder operation

- Operate your camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- For DC or AC operation, use the accessories recommended in this operating instructions.
- If any solid object or liquid get inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF (CHARGE) when you are not using your camcorder.
- Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
- Keep your camcorder away from strong magnetic fields or mechanical vibration. Noise may appear on the image.
- Do not touch the LCD screen with your fingers or a sharp-pointed object.
- If your camcorder is used in a cold place, a residual image may appear on the LCD screen or in the viewfinder. This is not a malfunction.
- While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

On handling tapes

Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type and thickness of the tape and if the recording tab is in or out.

Camcorder care

- Remove the tape, and periodically turn on the power, operate the CAMERA and VTR (DCR-TRV620E)/PLAYER (DCR-TRV420E/TRV520E) sections and play back a tape for about 3 minutes when your camcorder is not to be used for a long time.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into your camcorder. When you use your camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause your camcorder to malfunction, and sometimes this malfunction cannot be repaired.

Информация по уходу за аппаратом и меры предосторожности

Меры предосторожности

Эксплуатация видеокамеры

- Эксплуатируйте видеокамеру от 7,2 В (батарейный блок) или 8,4 В (сетевой адаптер переменного тока).
- Что касается эксплуатации видеокамеры от постоянного и переменного тока, используйте принадлежность, рекомендуемые в данной инструкции по эксплуатации.
- Если какой-нибудь твердый предмет или жидкость попали внутрь корпуса, выключите видеокамеру и проверьте ее у дилера Sony перед дальнейшей ее эксплуатацией.
- Избегайте грубого обращения с видеокамерой или механических ударов. Будьте особенно осторожны с объективом.
- Если видеокамера не используется, установите выключатель POWER в положение OFF (CHARGE).
- Не заворачивайте Вашу видеокамеру, например, в полотенце, и не эксплуатируйте ее в таком состоянии. В противном случае может произойти повышение температуры внутри видеокамеры.
- Держите Вашу видеокамеру подальше от сильных магнитных полей или механической вибрации. На изображении могут появиться помехи.
- Не прикасайтесь к экрану ЖКД своими пальцами или острыми предметами.
- При эксплуатации Вашей видеокамеры в холодном месте, на экране ЖКД может появляться остаточное изображение. Это не является неисправностью.
- При эксплуатации Вашей видеокамеры, задняя сторона экрана ЖКД может нагреваться. Это не является неисправностью.

Обращение с лентами

Не вставляйте ничего в маленькие отверстия на задней стороне кассеты. Эти отверстия используются для определения типа и толщины ленты, а также для определения наличия или отсутствия лентка защиты записи на ленте.

Уход за видеокамерой

- Периодически вынимайте кассету и включайте питание, оперируйте устройствами CAMERA и VTR (DCR-TRV620E)/PLAYER (DCR-TRV420E/TRV520E) и воспроизводите ленту порядка 3-х минут, если Ваша видеокамера не будет использоваться длительное время.
- Чистите объектив с помощью мягкой кисточки для удаления пыли. Если имеются отпечатки пальцев на объективе, удалите их с помощью мягкой ткани.
- Чистите корпус видеокамеры с помощью сухой мягкой ткани или мягкой ткани, слегка смоченной раствором умеренного моющего средства. Не используйте каких-либо типов растворителей, которые могут повредить отделку.
- Не допускайте попадания песка в видеокамеру. Если Вы используете видеокамеру на песчаном пляже или в каком-либо пыльном месте, предохраните аппарат от песка или пыли. Песок или пыль могут привести к неисправности аппарата, которая иногда может быть неисправимой.

Maintenance information and precautions

Connection to your PC

- When recording with i.LINK cable the image processed or edited by your PC, use a new Hi8 Hi8i/Digital8 i.LINK tape.
- When inputting the image recorded by Hi8/standard8 (analog) system into your PC, dub the image into a Digital8 i.LINK or DV tape first, and then input it into your PC.

When inputting the image recorded by Hi8/standard 8 system into Sony VAIO

The Program Capture function of DVgate motion doesn't work. To use this function, dub the image into a Digital8 i.LINK or DV tape first, and then input it into your Sony VAIO.

AC power adaptor

- Unplug the unit from the mains when you are not using the unit for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the mains lead itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the mains lead forcibly, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.
- Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.
- Always keep metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM reception and video operation.
- The unit becomes warm during use. This is not a malfunction.
- Do not place the unit in locations that are:
 - Extremely hot or cold
 - Dusty or dirty
 - Very humid
 - Vibrating

Информация по уходу за аппаратом и меры предосторожности

Подключение к Вашему персональному компьютеру

- При записи с помощью шнура i.LINK, изображение можно обрабатывать и редактировать на Вашем персональном компьютере, используйте при этом новую ленту Hi8 Hi8i/цифровую ленту Digital8 i.LINK или DV, а затем введите его в персональный компьютер.
- При вводе изображения, записанного в системе Hi8/стандартной системе 8 (аналоговой), в Ваш персональный компьютер, сначала сделайте копию изображения на цифровую ленту Digital8 i.LINK или DV, а затем введите его в персональный компьютер.

При вводе изображения, записанного в системе Hi8/стандартной системе 8, в программу Sony VAIO

Функция захвата изображения DVgate motion не работает. Для использования этой функции сначала скопируйте изображение на цифровую ленту Digital8 i.LINK или DV, а затем введите его в Вашу программу Sony VAIO.

Сетевой адаптер переменного тока

- Отсоедините аппарат от электрической сети, если он не используется длительное время. Для отсоединения сетевого шнура потяните его за разъем. Никогда не тяните за сам шнур.
- Не эксплуатируйте аппарат с поврежденным шнуром или же в случае, если аппарат упал или был поврежден.
- Не сгибайте сетевой провод силой и не ставьте на него тяжелые предметы. Это повредит провод и может привести к пожару или поражению электрическим током.
- Будьте осторожны, чтобы никакие металлические предметы не соприкасались с металлическими контактами соединительной пластины. Если это случится, то может произойти короткое замыкание, и аппарат может быть поврежден.
- Следите за тем, чтобы металлические контакты были чистыми.
- Не разбирайте аппарат.
- Не подвергайте аппарат механической вибрации и не роняйте его.
- При использовании аппарата, особенно во время зарядки, держите его подальше от приемников AM-радиовещания и видеоаппаратуры. Приемники AM-радиовещания и видеоаппаратура нарушают AM-радиоприем и работу видеоаппаратуры.
- В процессе эксплуатации аппарат нагревается. Это является вполне нормальным.
- Не размещайте аппарат в местах:
 - чрезмерно жарких или холодных
 - пыльных или грязных
 - очень влажных
 - подверженных вибрации

Additional Information

Дополнительная информация

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Maintenance information and precautions

Battery pack

- Use only the specified charger or video equipment with the charging function.
- To prevent accident from a short circuit, do not allow metal objects to come into contact with the battery terminals.
- Keep the battery pack away from fire.
- Never expose the battery pack to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.
- Keep the battery pack dry.
- Do not expose the battery pack to any mechanical shock.
- Do not disassemble nor modify the battery pack.
- Attach the battery pack to the video equipment securely.
- Charging while some capacity remains does not affect the original battery capacity.

Note on dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following:

- Be sure to insert the batteries with the + – polarities matched to the + – marks.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- Current flows from batteries when you are not using them for a long time.
- Do not use leaking batteries.

If batteries are leaking

- Wipe off the liquid in the battery compartment carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid got into your eyes, wash your eyes with a lot of water and then consult a doctor.

If any problem occurs, unplug your camcorder and contact your nearest Sony dealer.

Информация по уходу за аппаратом и меры предосторожности

Батарейный блок

- Используйте только рекомендуемое зарядное устройство или видеоаппаратуру с зарядной функцией.
- Для предотвращения несчастного случая из-за короткого замыкания не допускайте контакта металлических предметов с полюсами батарейного блока.
- Не располагайте батарейный блок вблизи огня.
- Не подвергайте батарейный блок воздействию температур свыше 60°C, например, в припаркованном под солнцем автомобиле или под прямым солнечным светом.
- Следите за тем, чтобы батарейный блок был сухим.
- Не подвергайте батарейный блок воздействию каких-либо механических ударов.
- Не разбирайте и не видоизменяйте батарейный блок.
- Прикрепляйте батарейный блок к видеоаппаратуре плотно.
- Зарядка в случае оставшейся емкости заряда не отражается на емкости первоначального заряда.

Примечание к сухим батарейкам

Во избежание возможного повреждения видеокамеры вследствие утечки внутреннего вещества батареек или коррозии соблюдайте следующее:

- При установке батареек соблюдайте правильную полярность + – в соответствии с метками + –.
- Сухие батарейки нельзя перезаряжать.
- Не используйте новые батарейки вместе со старыми.
- Не используйте батарейки разного типа.
- Если батарейки не используются длительное время, они постепенно разряжаются.
- Не используйте батарейки, которые потекли.

Если произошла утечка внутреннего вещества батареек

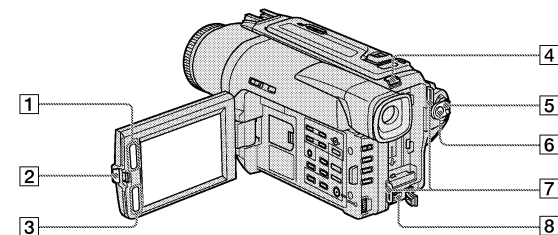
- Перед тем, как заменить батарейки, тщательно протрите остатки жидкости в отсеке для батареек.
- В случае попадания жидкости на кожу, промойте жидкость водой.
- В случае попадания жидкости в глаза, промойте свои глаза большим количеством воды, после чего обратитесь к врачу.

В случае возникновения каких-либо проблем, отключите Вашу видеокамеру от источника питания и обратитесь в ближайший сервисный центр Sony.

— Quick Reference —

Identifying the parts and controls

Camcorder



- 1 LCD BRIGHT buttons (p. 23)
- 2 OPEN button (p. 21)
- 3 VOLUME buttons (p. 33)
- 4 BATT RELEASE lever (p. 12)
- 5 POWER switch (p. 21)
- 6 START/STOP button (p. 21)
- 7 Hooks for shoulder strap (p. 167)
- 8 DC IN jack (p. 13)

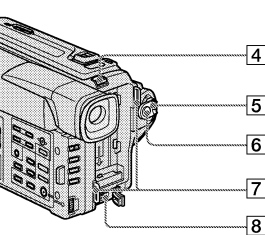


This mark indicates that this product is a genuine accessory for Sony video products. When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

— Оперативный справочник —

Обозначение частей и регуляторов

Видеокамера



- 1 Кнопки LCD BRIGHT (стр. 23)
- 2 Кнопка OPEN (стр. 21)
- 3 Кнопки VOLUME (стр. 33)
- 4 Рычаг BATT RELEASE (стр. 12)
- 5 Переключатель POWER (стр. 21)
- 6 Кнопка START/STOP (стр. 21)
- 7 Крючки для плечевого ремня (стр. 167)
- 8 Гнездо DC IN (стр. 13)



Данный знак означает, что это изделие является подлинной принадлежностью для видеоаппаратуры Sony. При покупке видеоаппаратуры Sony рекомендуется приобретать для нее принадлежности Sony с таким знаком "GENUINE VIDEO ACCESSORIES".

Quick Reference

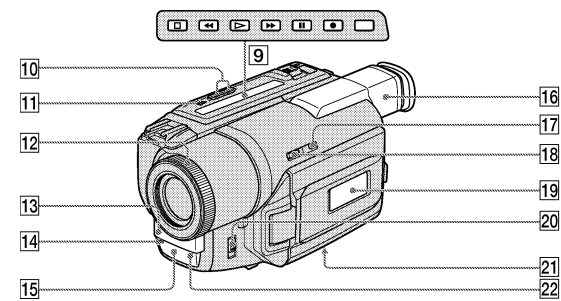
Оперативный справочник

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Identifying the parts and controls

Обозначение частей и регуляторов



- 9 Video control buttons (p. 33, 36)
- STOP (stop)
 - ◀ REW (rewind)
 - ▶ PLAY (playback)
 - ▶▶ FF (fastforward)
 - ⏸ PAUSE (pause)
 - REC (recording) (DCR-TRV620E only)
- The control buttons light up when you set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
- 10 EDITSEARCH buttons (p. 31)
- 11 S. LASER LINK button (p. 40)
- 12 Focus ring (p. 57)
- 13 Microphone
- 14 Camera recording lamp (p. 21)
- 15 Infrared rays emitter (p. 28, 40)
- 16 Viewfinder (p. 25)
- 17 SUPER NIGHTSHOT button (p. 28)
- 18 NIGHTSHOT switch (p. 28)
- 19 Display window (p. 172)
- 20 FOCUS switch (p. 57)
- 21 Tripod receptacle (base)
- Make sure that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage your camcorder.
- 22 Remote sensor

- 9 Кнопки видеоконтроля (стр. 33, 36)
- STOP (остановка)
 - ◀ REW (ускоренная перемотка назад)
 - ▶ PLAY (воспроизведение)
 - ▶▶ FF (ускоренная перемотка вперед)
 - ⏸ PAUSE (пауза)
 - REC (запись) (только DCR-TRV620E)
- Кнопки контроля высвечиваются при установке переключателя POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
- 10 Кнопка EDITSEARCH (стр. 31)
- 11 Кнопка S.LASER LINK (стр. 40)
- 12 Кольцо фокусировки (стр. 57)
- 13 Микрофон
- 14 Лампа записи видеокамеры (стр. 21)
- 15 Излучатель инфракрасных лучей (стр. 28, 40)
- 16 Видоискатель (стр. 25)
- 17 Кнопка SUPER NIGHTSHOT (стр. 28)
- 18 Переключатель NIGHTSHOT (стр. 28)
- 19 Окошко дисплея (стр. 172)
- 20 Переключатель FOCUS (стр. 57)
- 21 Гнездо для треноги (основание)
- Убедитесь, что длина винта треноги менее 6,5 мм. В противном случае Вы не сможете надежно прикрепить треногу, а винт может повредить Вашу видеокамеру.
- 22 Датчик дистанционного управления

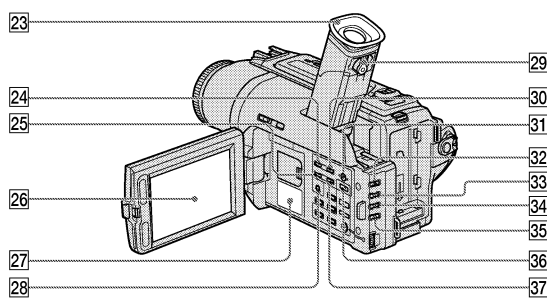
What is SUPER LASER LINK?
The super laser link system sends and receives pictures and sound between video equipment having the super laser link mark by using infrared rays.

Что такое SUPER LASE LINK?
Система лазерного суперканала передачи сигналов посылает и принимает изображения и звук между видеоаппаратурой имеющей знак лазерного суперканала передачи сигналов, с помощью инфракрасных лучей.

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Identifying the parts and controls

Обозначение частей и регуляторов



- 23 Eyecup
- 24 MEMORY PLAY button (p. 119)
- 25 MEMORY - button (p. 111, 119)
- 26 LCD screen (p. 23)
- 27 Speaker
- 28 (self-timer) button (p. 30)
- 29 Viewfinder lens adjustment lever (p. 25)
- 30 MEMORY INDEX button (p. 121)
- 31 MEMORY DELETE button (p. 130)
- 32 FADER button (p. 47)
- 33 BACK LIGHT button (p. 27)
- 34 PROGRAM AE button (p. 55)
- 35 EXPOSURE button (p. 56)
- 36 MEMORY MIX button (p. 111)
- 37 MEMORY + button (p. 111, 119)

- 23 Окуляр
- 24 Кнопка MEMORY PLAY (стр. 119)
- 25 Кнопка MEMORY - (стр. 111, 119)
- 26 Экран ЖКД (стр. 23)
- 27 Динамик
- 28 Кнопка (таймер самозапуска) (стр. 30)
- 29 Рычаг регулировки объектива видоискателя (стр. 25)
- 30 Кнопка MEMORY INDEX (стр. 121)
- 31 Кнопка MEMORY DELETE (стр. 130)
- 32 Кнопка FADER (стр. 47)
- 33 Кнопка BACK LIGHT (стр. 27)
- 34 Кнопка PROGRAM AE (стр. 55)
- 35 Кнопка EXPOSURE (стр. 56)
- 36 Кнопка MEMORY MIX (стр. 111)
- 37 Кнопка MEMORY + (стр. 111, 119)

Attaching the shoulder strap
Attach the shoulder strap supplied with your camcorder to the hooks for the shoulder strap.

Прикрепление плечевого ремня
Прикрепите плечевой ремень, прилагаемый к Вашей видеокамере, к крючкам для плечевого ремня.



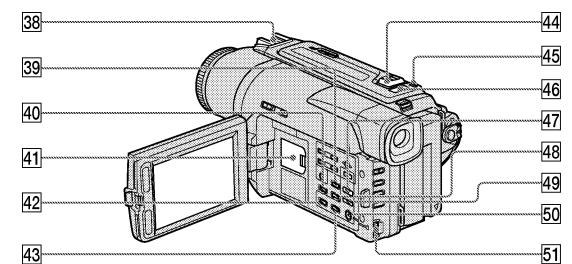
Quick Reference

Оперативный справочник

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Identifying the parts and controls

Обозначение частей и регуляторов



- 38 Intelligent accessory shoe
- 39 DATA CODE button (p. 34)
- 40 DISPLAY button (p. 34)
- 41 Lithium battery compartment (p. 140)
- 42 PB ZOOM button (p. 66, 125)
- 43 TITLE button (p. 59)
- 44 Power Zoom lever (p. 24)
- 45 PHOTO button (p. 41, 105)
- 46 "Memory Stick" lamp
- This lamp lights up while "Memory Stick" is in the "Memory Stick" compartment.
- 47 DIGITAL EFFECT button (p. 52, 65)
- 48 END SEARCH button (p. 31)
- 49 PICTURE EFFECT button (p. 50, 64)
- 50 MENU button (p. 45, 85)
- 51 SEL/PUSH EXEC dial (p. 45, 85)

- 38 Держатель для установки принадлежностей
- 39 Кнопка DATA CODE (стр. 34)
- 40 Кнопка DISPLAY (стр. 34)
- 41 Отсек литиевой батарейки (стр. 140)
- 42 Кнопка PB ZOOM (стр. 66, 125)
- 43 Кнопка TITLE (стр. 59)
- 44 Рычаг приводного вариобъектива (стр. 24)
- 45 Кнопка PHOTO (стр. 41, 105)
- 46 Лампочка "Memory Stick"
- Эта лампочка высвечивается в то время, когда "Memory Stick" вставлена в отсек "Memory Stick".
- 47 Кнопка DIGITAL EFFECT (стр. 52, 65)
- 48 Кнопка END SEARCH (стр. 31)
- 49 Кнопка PICTURE EFFECT (стр. 50, 64)
- 50 Кнопка MENU (стр. 45, 85)
- 51 Диск SEL/PUSH EXEC (стр. 45, 85)

Intelligent Accessory Shoe
Notes on the intelligent accessory shoe

- The intelligent accessory shoe supplies power to optional accessories such as a video light or microphone.
- The intelligent accessory shoe is linked to the POWER switch, allowing you to turn the power supplied by the shoe on and off. Refer to the operating instructions of the accessory for further information.
- The intelligent accessory shoe has a safety device for fixing the installed accessory securely. To connect an accessory, press down and push it to the end, and then tighten the screw.
- To remove an accessory, loosen the screw, and then press down and pull out the accessory.

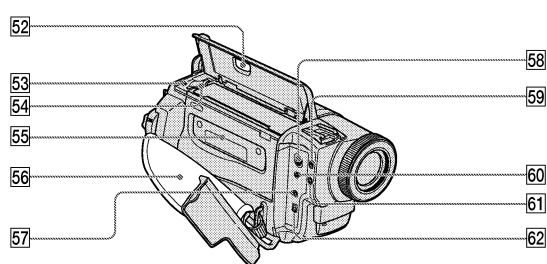
Intelligent Accessory Shoe
Примечания относительно держателя для установки принадлежностей

- Держатель для установки принадлежностей подает питание на вспомогательные принадлежности, такие как видеоподсветка или микрофон.
- Держатель для установки принадлежностей связан с переключателем POWER, позволяя Вам включать и выключать подаваемое через держатель питание. Подробные сведения приведены в инструкции по эксплуатации вспомогательных принадлежностей.
- В держателе для установки вспомогательных принадлежностей имеется предохранительное устройство для надежной фиксации установленной принадлежности. Для подсоединения принадлежности нажмите ее вниз и нажмите до упора, а затем затяните винт.
- Для снятия принадлежности ослабьте винт, а затем нажмите принадлежность вниз и потяните ее.

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Identifying the parts and controls

Обозначение частей и регуляторов



- 52 EJECT button (p. 19)
- 53 Access lamp (p. 102)
- 54 "Memory Stick" compartment (p. 102)
- 55 Cassette compartment (p. 19)
- 56 Grip strap
- 57 LANC DIGITAL I/O jack
- LANC stands for Local Application Control Bus System. The LANC control jack is used for controlling the tape transport of video equipment and other peripherals connected to the video equipment. This jack has the same function as the jack indicated as CONTROL L or REMOTE.
- 58 S VIDEO jack (p. 38)
- 59 (headphones) jack
- 60 AUDIO/VIDEO jack (p. 38, 44, 73, 116)
- 61 MIC (PLUG IN POWER) jack
- Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone.
- 62 DV IN/OUT or DV OUT jack (p. 75, 116)
- The DV IN/OUT or DV OUT jack is i.LINK compatible.

- 52 Кнопка EJECT (стр. 19)
- 53 Лампочка доступа (стр. 102)
- 54 Отсек "Memory Stick" (стр. 102)
- 55 Кассетный отсек (стр. 19)
- 56 Ремень для захвата
- 57 Гнездо LANC DIGITAL I/O
- LANC означает систему канала местного управления. Гнездо управления LANC используется для контроля за перемещением ленты видеоаппаратуры и периферийных устройств, подключенных к ней. Данное гнездо имеет такую же функцию, как и разъемы, обозначенные как CONTROL L или REMOTE.
- 58 Гнездо S VIDEO (стр. 38)
- 59 Гнездо (головные телефоны)
- 60 Гнездо AUDIO/VIDEO (стр. 38, 44, 73, 116)
- 61 Гнездо MIC (PLUG IN POWER)
- Для подсоединения внешнего микрофона (не прилагается). Это гнездо также позволяет подключить микрофон "с включением питания".
- 62 Гнездо DV IN/OUT или DV OUT (стр. 75, 116)
- Гнездо DV IN/OUT или DV OUT совместимо с каналом передачи сигналов i.LINK.

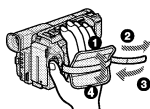
Quick Reference

Оперативный справочник

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Identifying the parts and controls

Fastening the grip strap



Fasten the grip strap firmly.

Обозначение частей и регуляторов

Присоединение ремня для захвата

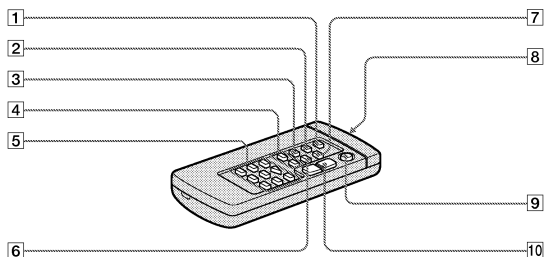
Присоедините ремень для захвата плотно.

Remote Commander

The buttons that have the same name on the Remote Commander as on your camcorder function identically to the buttons on your camcorder.

Пульт дистанционного управления

Кнопки пульта дистанционного управления, которые имеют одинаковые наименования с кнопками на видеокамере, функционируют идентично.



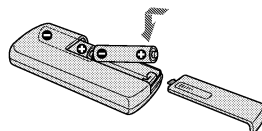
- | | |
|---|--|
| 1 PHOTO button (p. 41, 105) | 1 Кнопка PHOTO (стр. 41, 105) |
| 2 DISPLAY button (p. 34) | 2 Кнопка DISPLAY (стр. 34) |
| 3 SEARCH MODE button (p. 69, 71) | 3 Кнопка SEARCH MODE (стр. 69, 71) |
| 4 <</>> buttons (p. 68, 71) | 4 Кнопки <</>> (стр. 68, 71) |
| 5 Tape transport buttons (p. 36) | 5 Кнопки перемещения ленты (стр. 36) |
| 6 DATA CODE button (p. 34) | 6 Кнопка DATA CODE (стр. 34) |
| 7 ZERO SET MEMORY button (p. 63, 68) | 7 Кнопка ZERO SET MEMORY (стр. 63, 68) |
| 8 Transmitter | 8 Передатчик |
| Point toward the remote sensor to control the camcorder after turning on the camcorder. | Направьте на датчик для управления видеокамерой после включения видеокамеры. |
| 9 START/STOP button (p. 21) | 9 Кнопка START/STOP (стр. 21) |
| 10 Power zoom button (p. 24) | 10 Кнопка приводного вариообъектива (стр. 24) |

Identifying the parts and controls

To prepare the Remote Commander
Insert 2 R6 (size AA) batteries by matching the + and - polarities on the batteries to the + - marks inside the battery compartment.

Обозначение частей и регуляторов

Для подготовки пульта дистанционного управления
Вставьте две батарейки R6 (размера AA), соблюдая надлежащую полярность + и - на батарейках со знаками + - внутри отсека для батареек.



Notes on the Remote Commander

- Point the remote sensor away from strong light sources such as direct sunlight or overhead lighting. Otherwise, the Remote Commander may not function properly.
- Your camcorder works in the Commander mode VTR 2. Commander modes 1, 2 and 3 are used to distinguish your camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR in the Commander mode VTR 2, we recommend changing the Commander mode or covering the sensor of the VCR with black paper.

Примечания к пульта дистанционного управления

- Держите дистанционный датчик подальше от сильных источников света, как например, прямые солнечные лучи или иллюминация. В противном случае дистанционное управление может не действовать.
- Данная видеокамера работает в режиме пульта дистанционного управления VTR 2. Режимы пульта дистанционного управления 1, 2 и 3 используются для отличия данной видеокамеры от других КВМ фирмы Sony во избежание неправильной работы дистанционного управления. Если Вы используете другой КВМ фирмы Sony, работающий в режиме VTR 2, мы рекомендуем Вам изменить режим пульта дистанционного управления или закрыть дистанционный датчик КВМ черной бумагой.

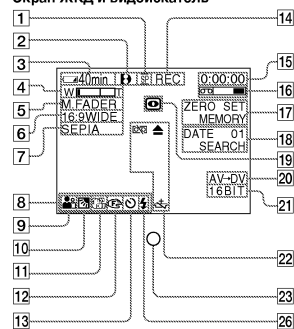
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Identifying the parts and controls

Operation indicators

LCD screen and Viewfinder/Экран ЖКД и видискатель

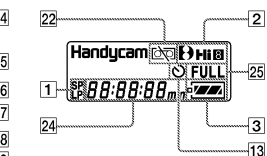


- | | |
|---|---|
| 1 Recording mode indicator (p. 22)/Mirror mode indicator (p. 23) | 1 Индикатор режима записи (стр. 22)/индикатор зеркального режима (стр. 23) |
| 2 Format indicator (p. 135)
Hi Hi or Hi indicator appears. | 2 Индикатор формата (стр. 135)
Появится индикатор Hi Hi или Hi |
| 3 Remaining battery time indicator (p. 13, 26) | 3 Индикатор времени оставшегося заряда батарейного блока (стр. 13, 26) |
| 4 Zoom indicator (p. 24)/Exposure indicator (p. 56) | 4 Индикатор вариообъектива (стр. 24)/Индикатор экспозиции (стр. 56) |
| 5 Fader indicator (p. 47)/Digital effect indicator (p. 52, 65) | 5 Индикатор фейдера (стр. 47)/Индикатор цифрового эффекта (стр. 52, 65) |
| 6 Wide mode indicator (p. 45)/FRAME indicator (p. 88) | 6 Индикатор широкоформатного режима (стр. 45)/Индикатор FRAME (стр. 94) |
| 7 Picture effect indicator (p. 50, 64) | 7 Индикатор эффекта изображения (стр. 50, 64) |
| 8 LCD bright indicator (p. 23)/Volume indicator (p. 33)/Data code indicator (p. 35) | 8 Индикатор яркости ЖКД (стр. 23)/индикатор громкости (стр. 33)/индикатор кода данных (стр. 35) |
| 9 PROGRAM AE indicator (p. 54) | 9 Индикатор PROGRAM AE (стр. 54) |
| 10 Backlight indicator (p. 27) | 10 Индикатор задней подсветки (стр. 27) |
| 11 SteadyShot off indicator (p. 86) | 11 Индикатор выключенной функции устойчивой съемки (стр. 92) |
| 12 Manual focusing indicator (p. 57) | 12 Индикатор ручной фокусировки (стр. 57) |
| 13 Self timer indicator (p. 30, 43) | 13 Индикатор таймера самозапуска (стр. 30, 43) |

Обозначение частей и регуляторов

Функциональные индикаторы

Display window/Окношко дисплея



- | | |
|---|--|
| 14 STBY/REC indicator (p. 21)/Video control mode (p. 36) | 14 Индикатор STBY/REC (стр. 21)/режим видеоконтроля (стр. 36) |
| 15 Tape counter indicator (p. 26, 63, 68)/Time code indicator (p. 146)/Tape photo recording indicator (p. 41) | 15 Индикатор счетчика ленты (стр. 26, 63, 68)/индикатор кода времени (стр. 26)/индикатор функции самодиагностики (стр. 154)/индикатор фотосъемки на ленту (стр. 41) |
| 16 Remaining tape indicator (p. 26) | 16 Индикатор оставшейся ленты (стр. 26) |
| 17 ZERO SET MEMORY indicator (p. 63, 67) | 17 Индикатор ZERO SET MEMORY (стр. 63, 67) |
| 18 Search mode indicator (p. 31, 68, 71) | 18 Индикатор режима поиска (стр. 31, 68, 71) |
| 19 NIGHTSHOT indicator (p. 28) | 19 Индикатор NIGHTSHOT (стр. 28) |
| 20 A/V → DV indicator (DCR-TRV620E only) (p. 87)/DV IN indicator (p. 82) | 20 Индикатор A/V → DV (Только DCR-TRV620E) (стр. 93)/индикатор DV IN (стр. 82) |
| 21 Audio mode indicator (p. 89) | 21 Индикатор аудиорежима (стр. 95) |
| 22 Warning indicators (p. 147) | 22 Предупреждающие индикаторы (стр. 155) |
| 23 Recording lamp (DCR-TRV420E/TRV520E) (p. 21)
This indicator appears in the viewfinder. | 23 Лампочка записи (DCR-TRV420E/TRV520E) (стр. 21)
Этот индикатор появляется в видискателе. |
| 24 Tape counter indicator (p. 26, 63, 68)/Time code indicator (p. 146)/Remaining battery time indicator (p. 13, 26) | 24 Индикатор счетчика ленты (стр. 26, 63, 68)/индикатор кода времени (стр. 26)/индикатор функции самодиагностики (стр. 154)/индикатор времени оставшегося заряда батарейного блока (стр. 13, 26) |
| 25 FULL charge indicator (p. 13) | 25 Индикатор зарядки FULL (стр. 13) |
| 26 Video flash ready indicator
This indicator appears when you use the video flash light (not supplied). | 26 Индикатор готовности видеовспышки
Этот индикатор появляется при использовании видеовспышки (не прилагается). |

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DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 SECTION 2 DISASSEMBLY

- This set can be disassembled in the order shown below.

Note: 2.5 LCD model : DCR-TRV320/TRV320E/TRV320P

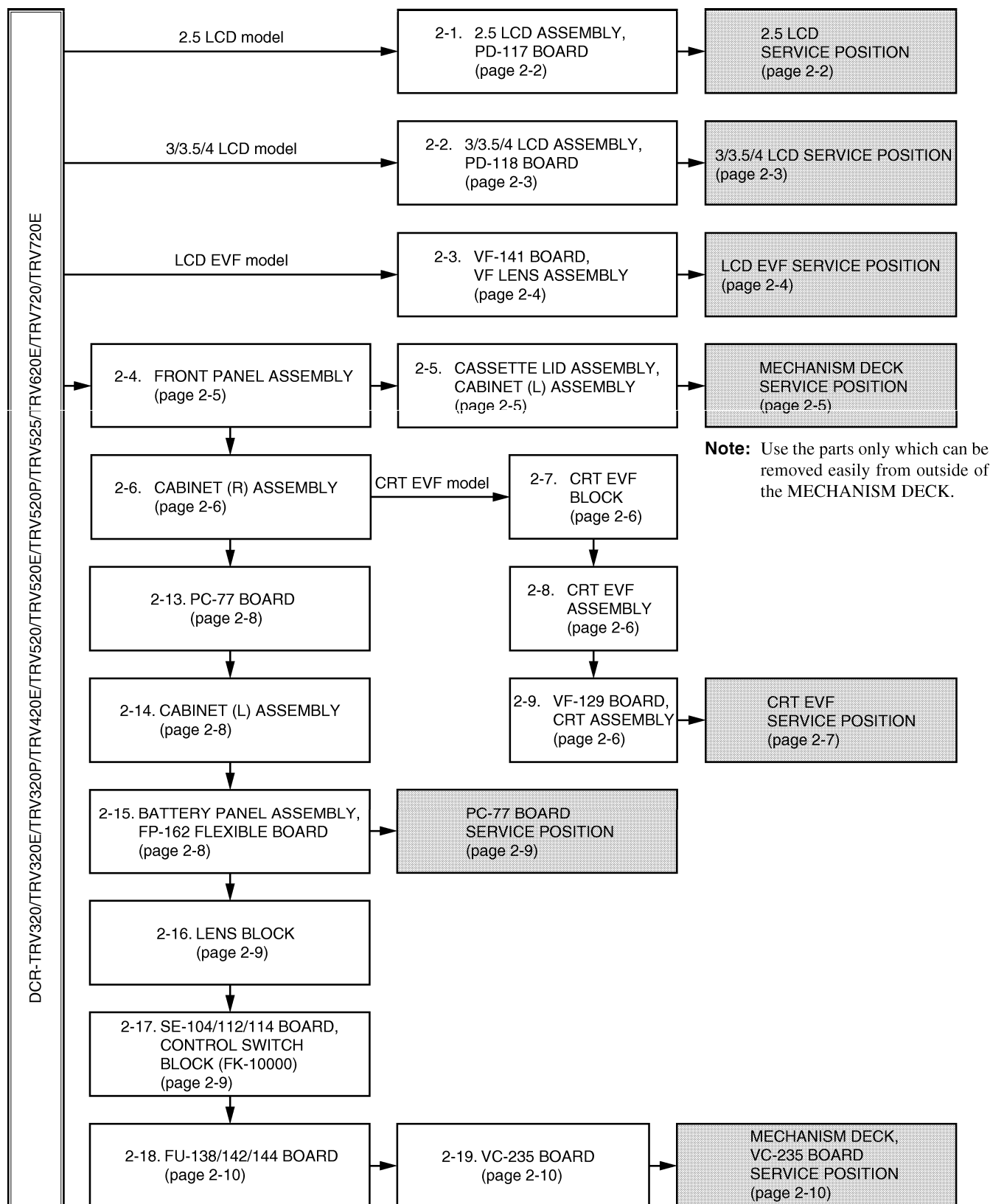
3 LCD model : DCR-TRV420E/TRV525

3.5 LCD model : DCR-TRV520/TRV520E/TRV520P/TRV620E

4 LCD model : DCR-TRV720/TRV720E

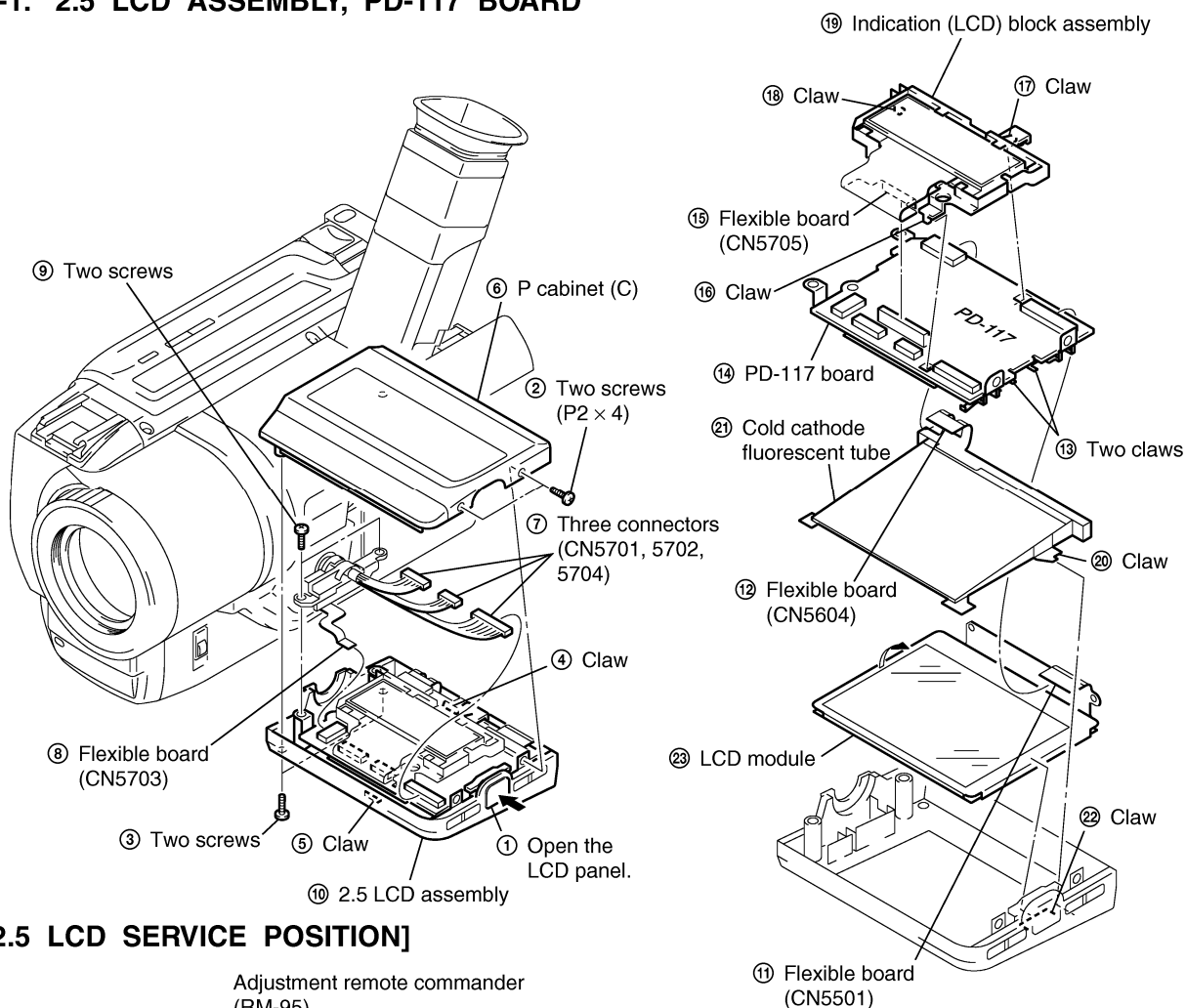
LCD EVF model: DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E/TRV720/TRV720E

CRT EVF model : DCR-TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P

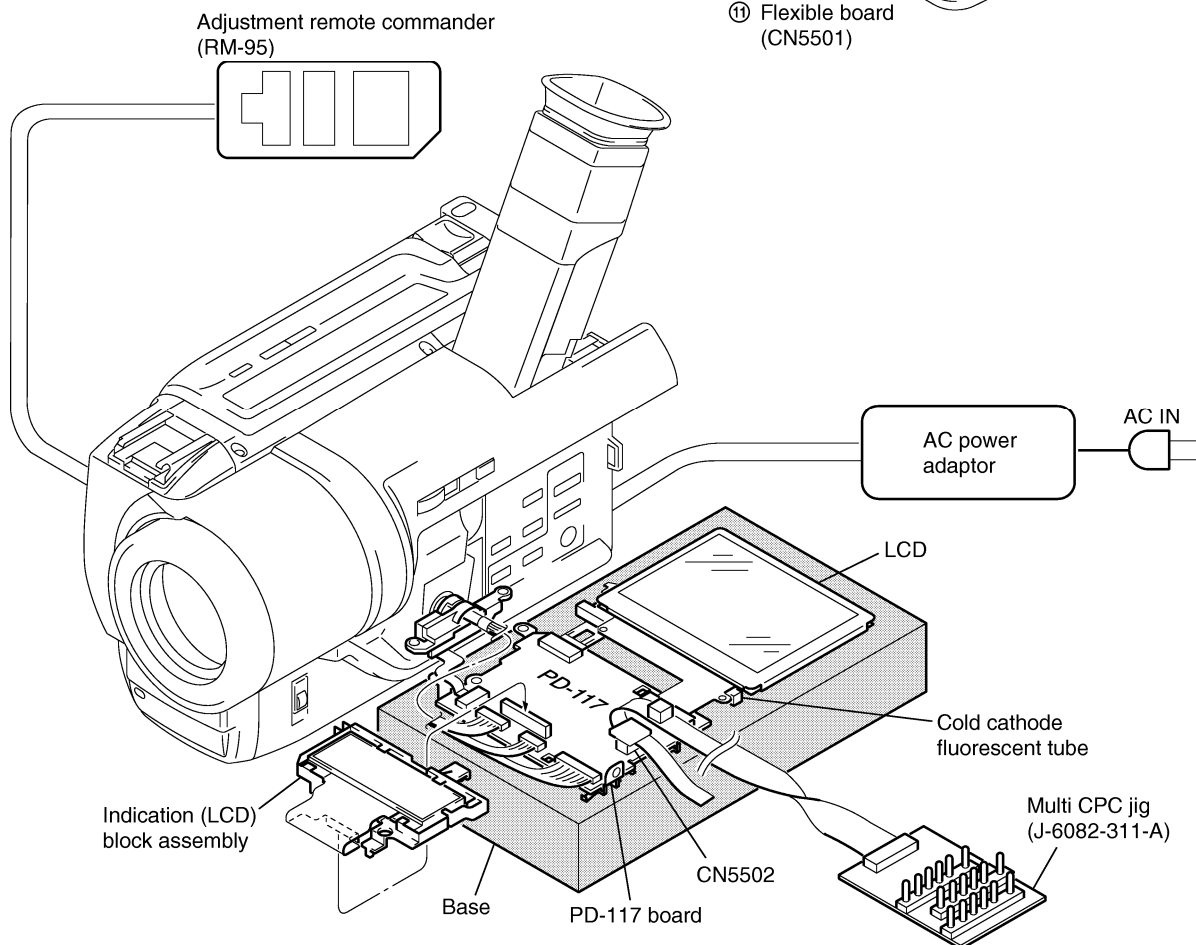


Note: Follow the disassembly procedure in the numerical order given.

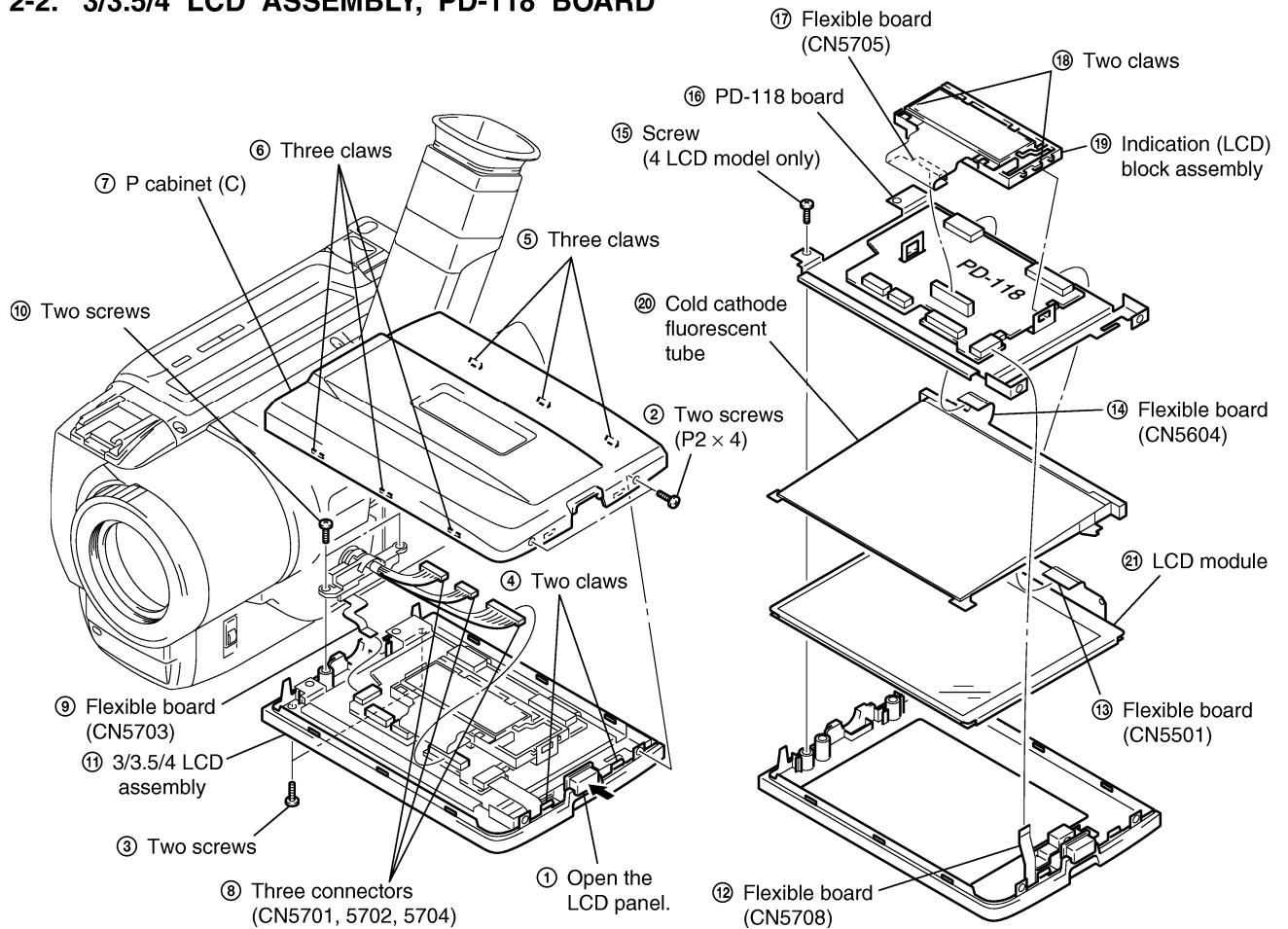
2-1. 2.5 LCD ASSEMBLY, PD-117 BOARD



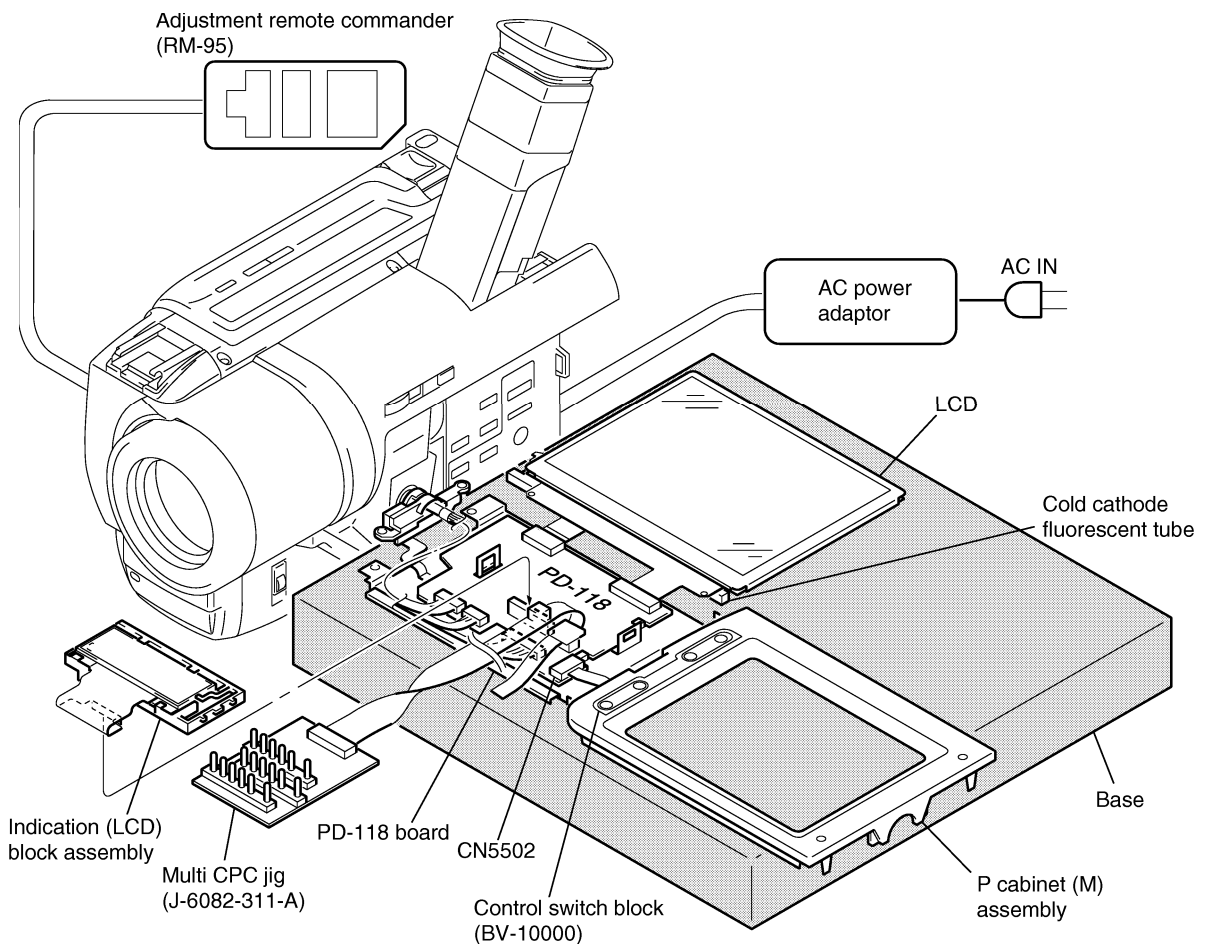
[2.5 LCD SERVICE POSITION]



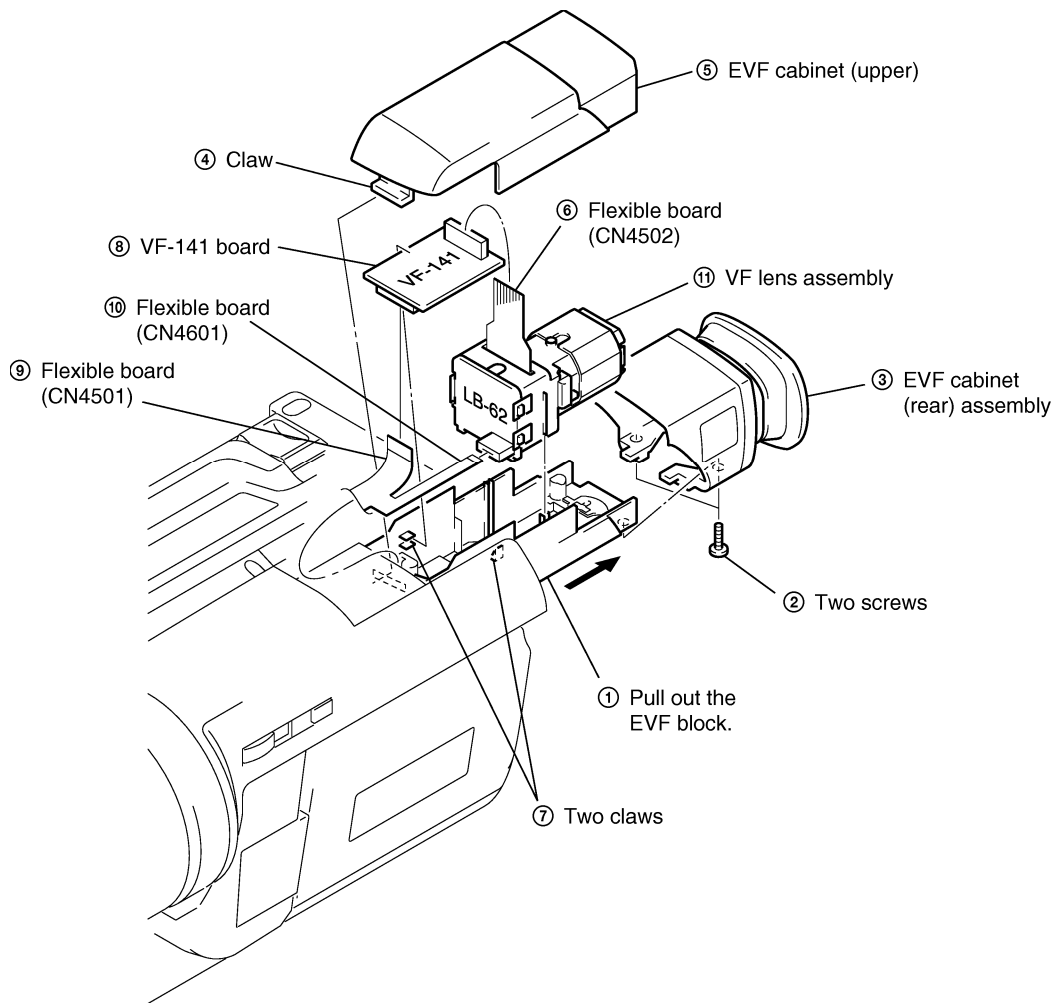
2-2. 3/3.5/4 LCD ASSEMBLY, PD-118 BOARD



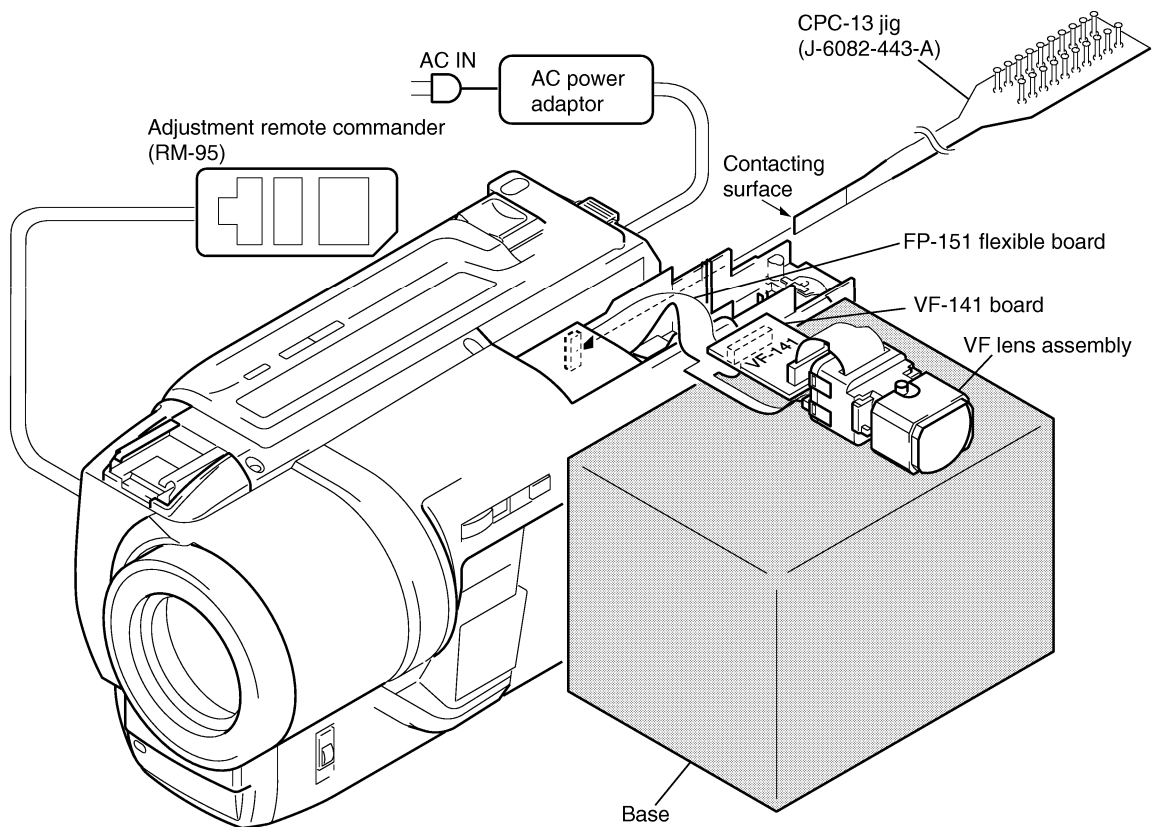
[3/3.5/4 LCD SERVICE POSITION]



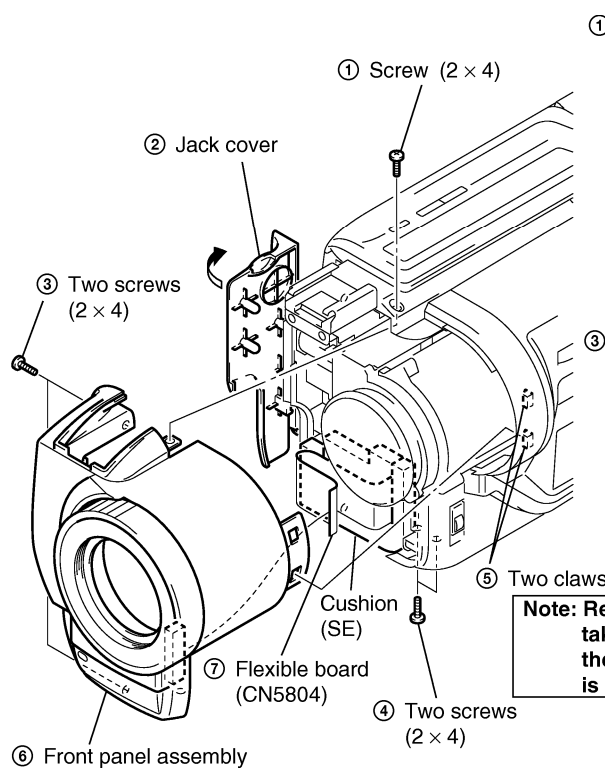
2-3. VF-141 BOARD, VF LENS ASSEMBLY (LCD EVF model)



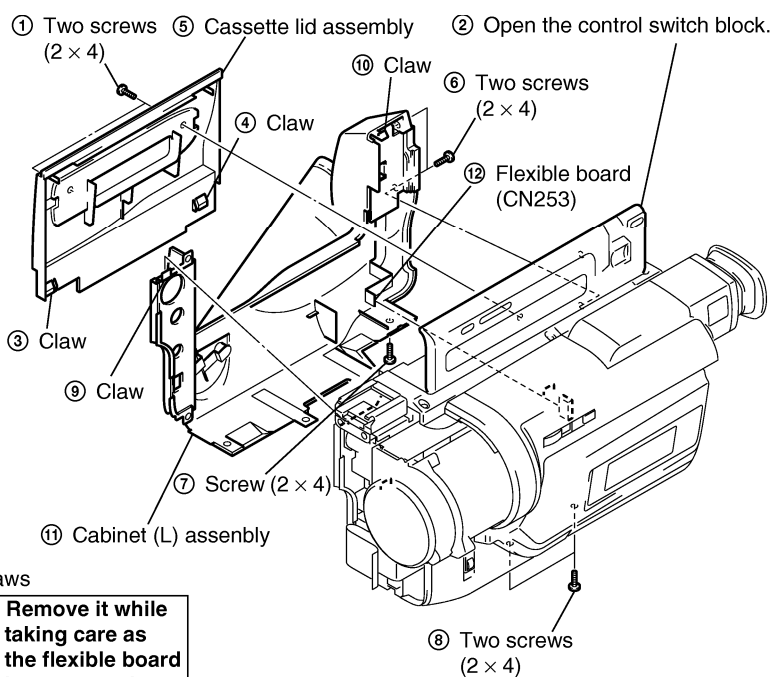
[LCD EVF SERVICE POSITION]



2-4. FRONT PANEL ASSEMBLY



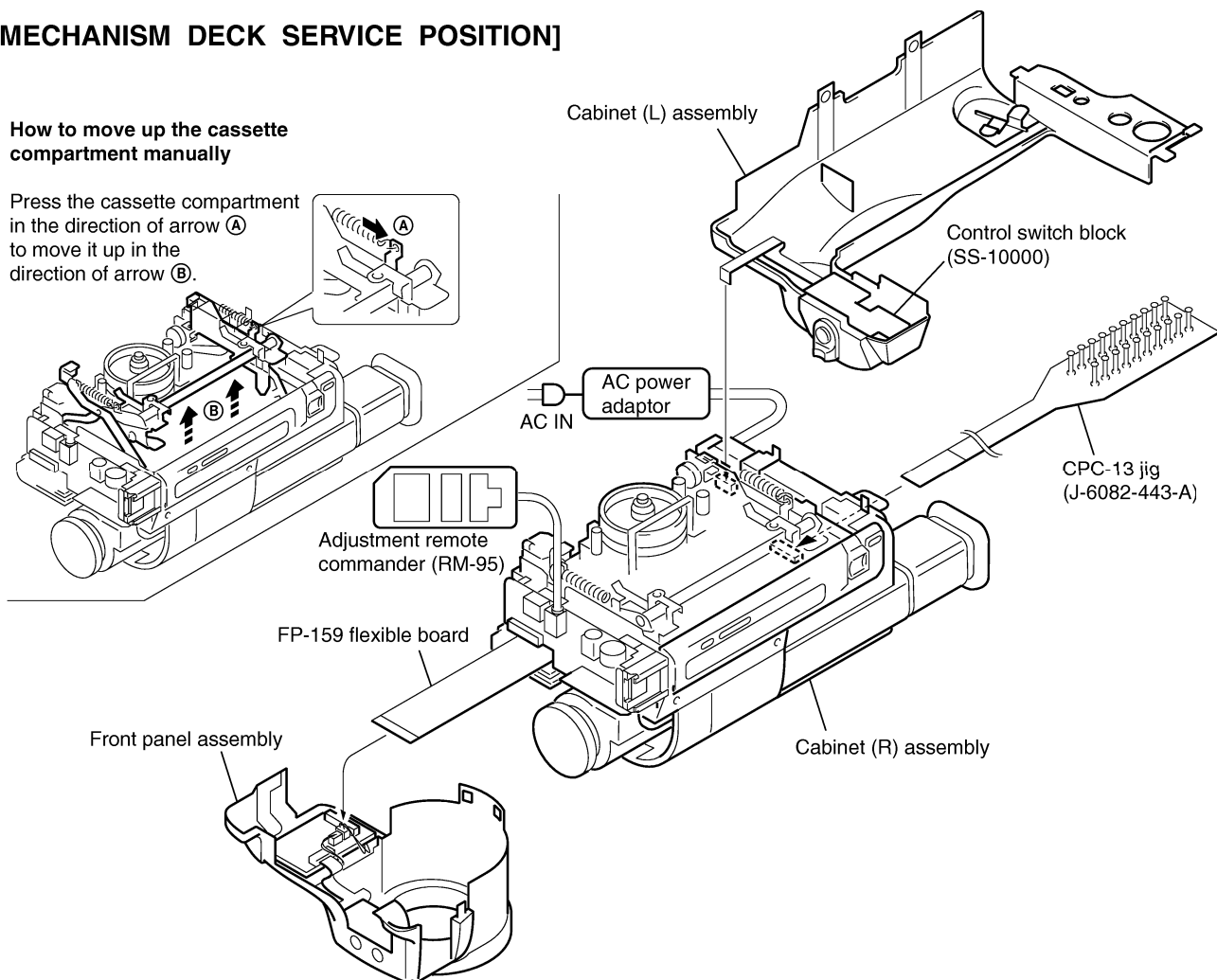
2-5. CASSETTE LID ASSEMBLY, CABINET (L) ASSEMBLY



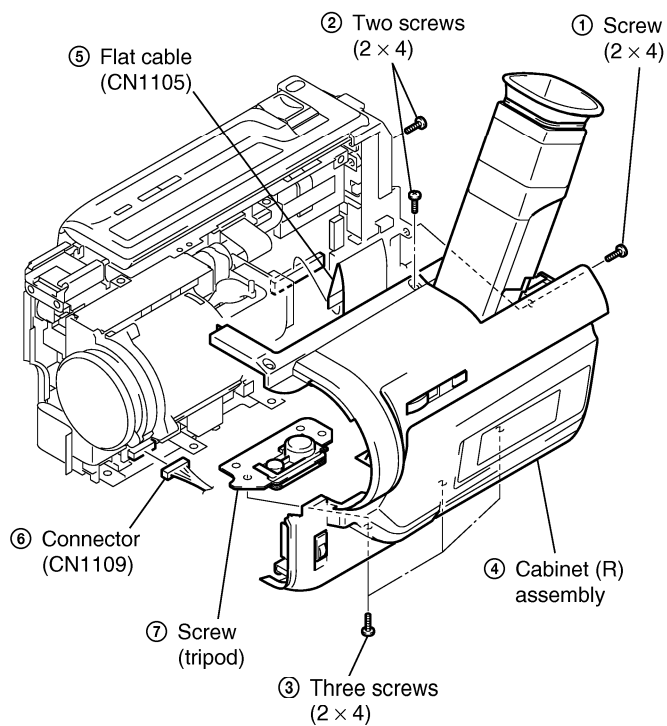
[MECHANISM DECK SERVICE POSITION]

• How to move up the cassette compartment manually

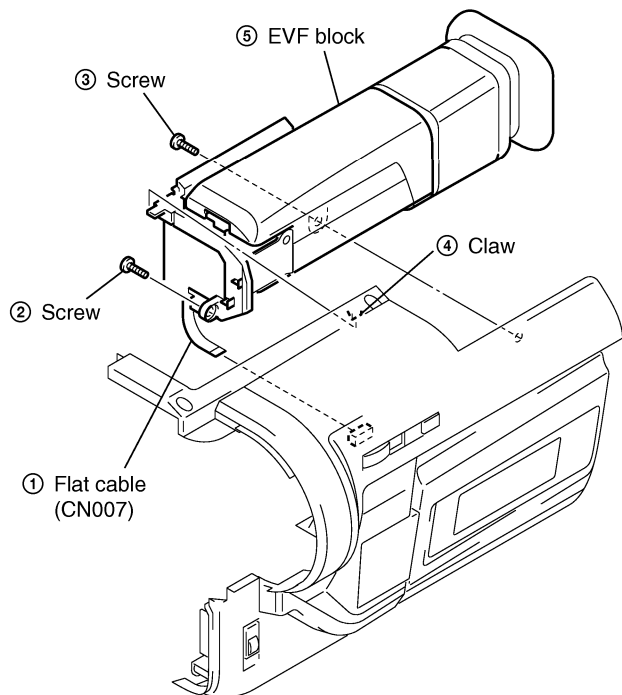
Press the cassette compartment in the direction of arrow (A) to move it up in the direction of arrow (B).



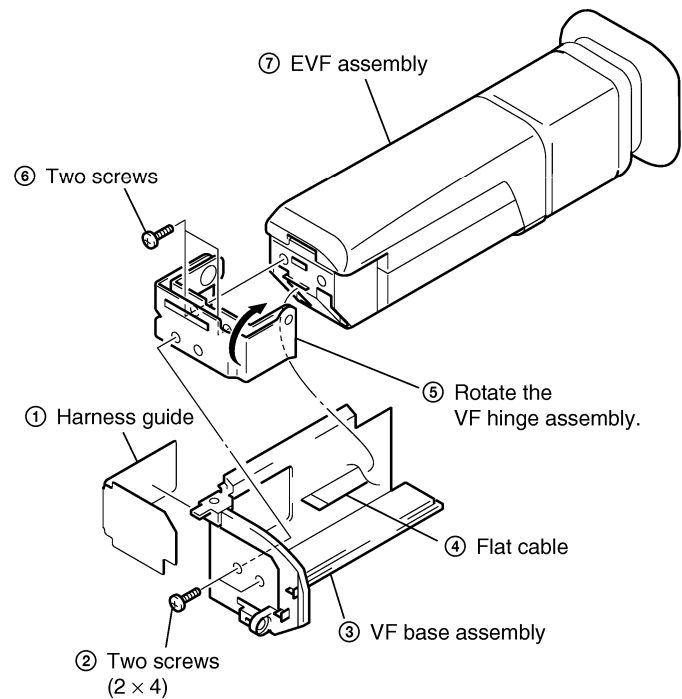
2-6. CABINET (R) ASSEMBLY



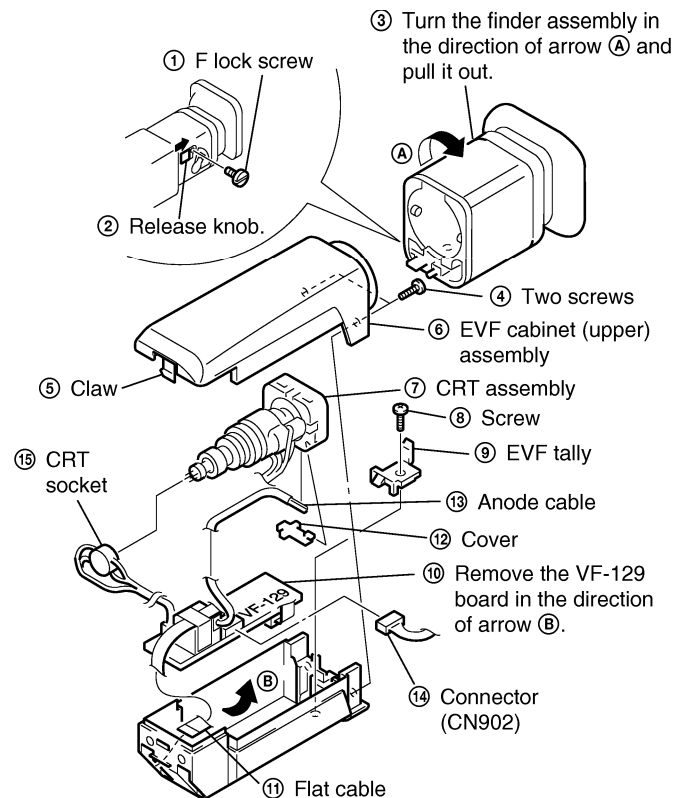
2-7. CRT EVF BLOCK



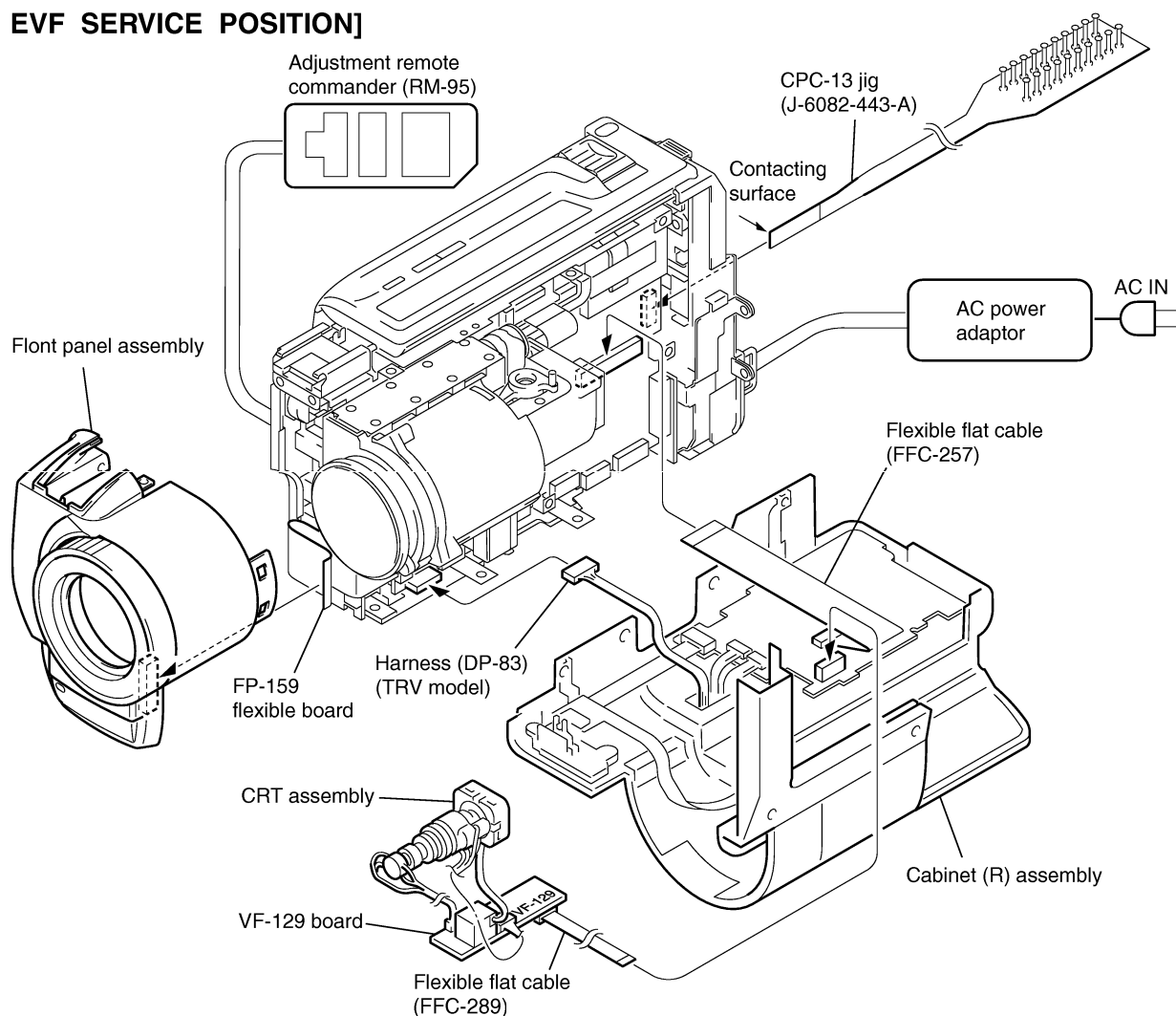
2-8. CRT EVF ASSEMBLY



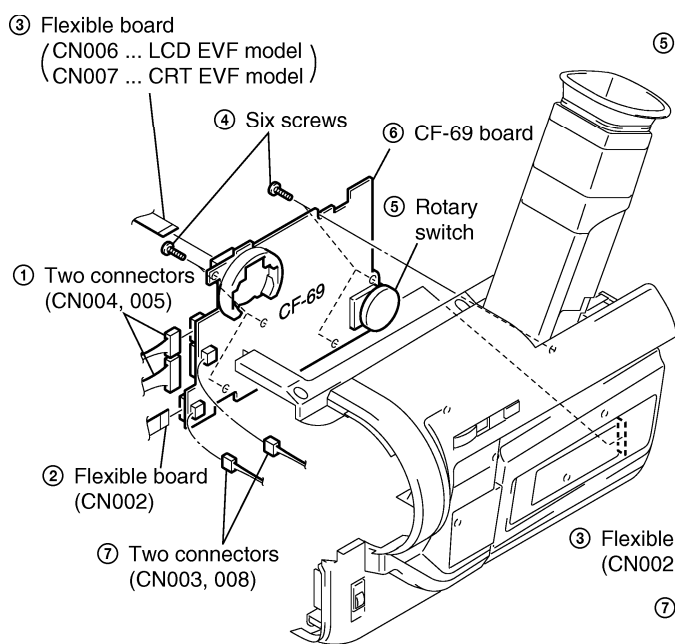
2-9. VF-129 BOARD, CRT ASSEMBLY



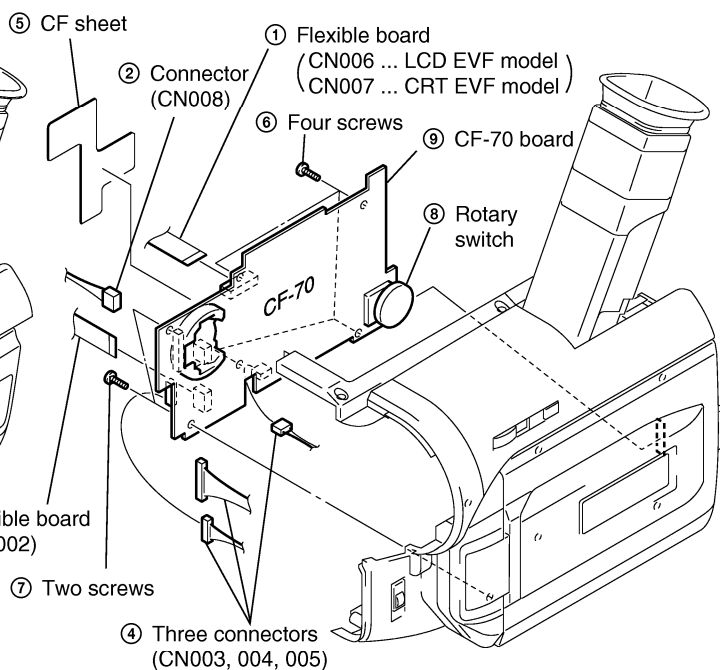
[CRT EVF SERVICE POSITION]



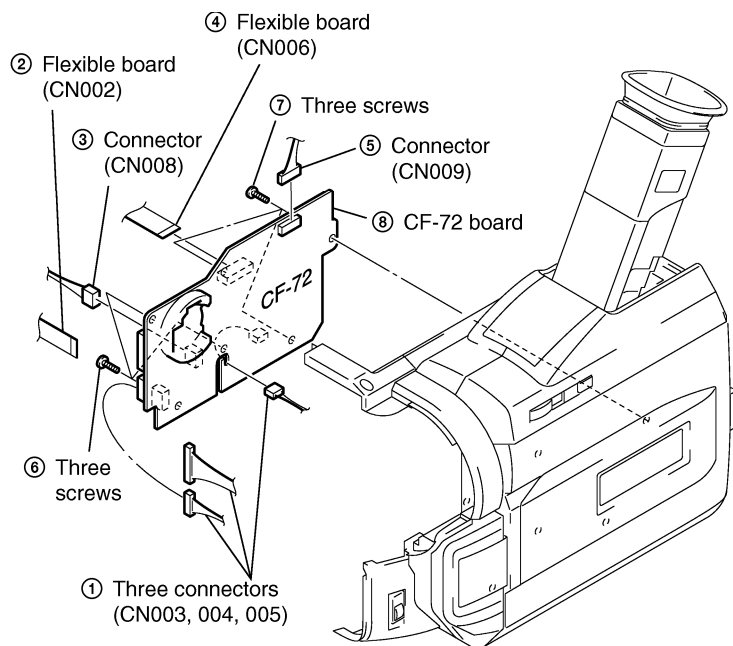
2-10. CF-69 BOARD (2.5 LCD model)



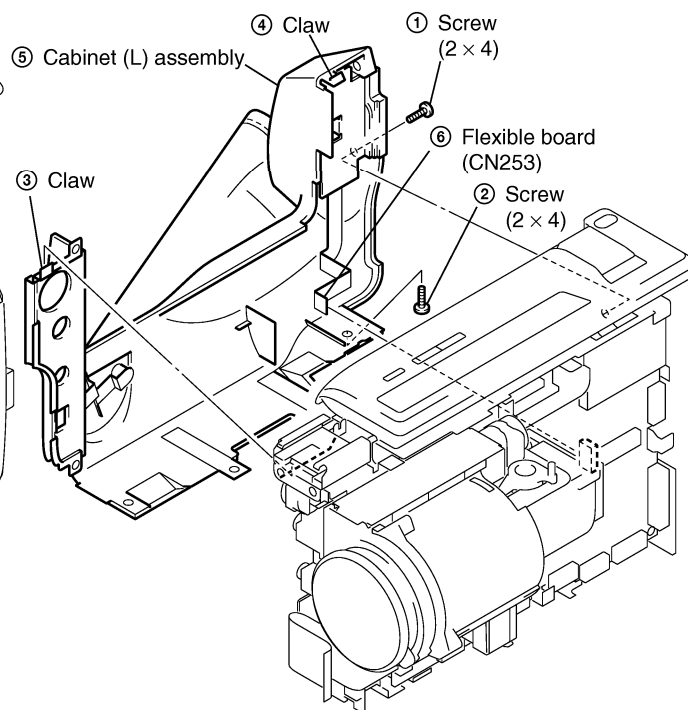
2-11. CF-70 BOARD (3/3.5 LCD model)



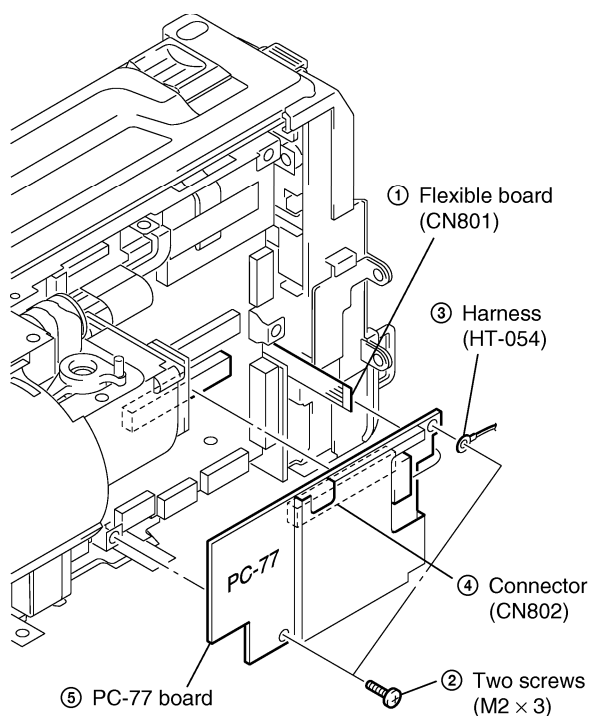
2-12. CF-72 BOARD (4 LCD model)



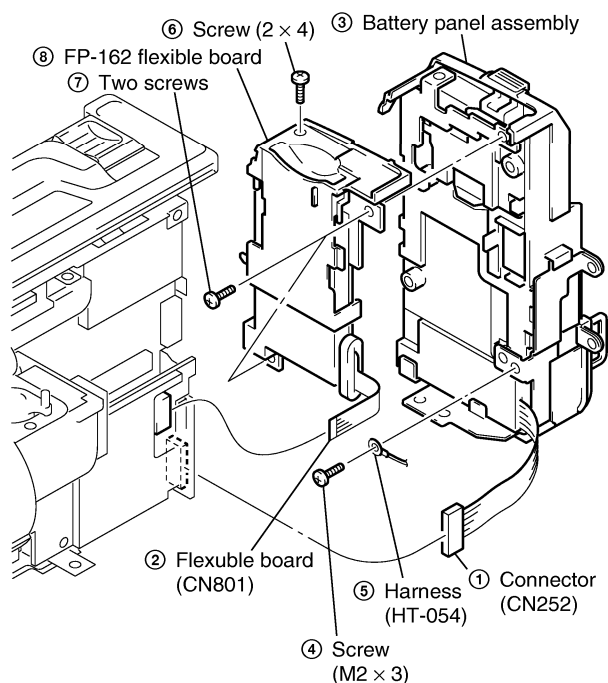
2-14. CABINET (L) ASSEMBLY



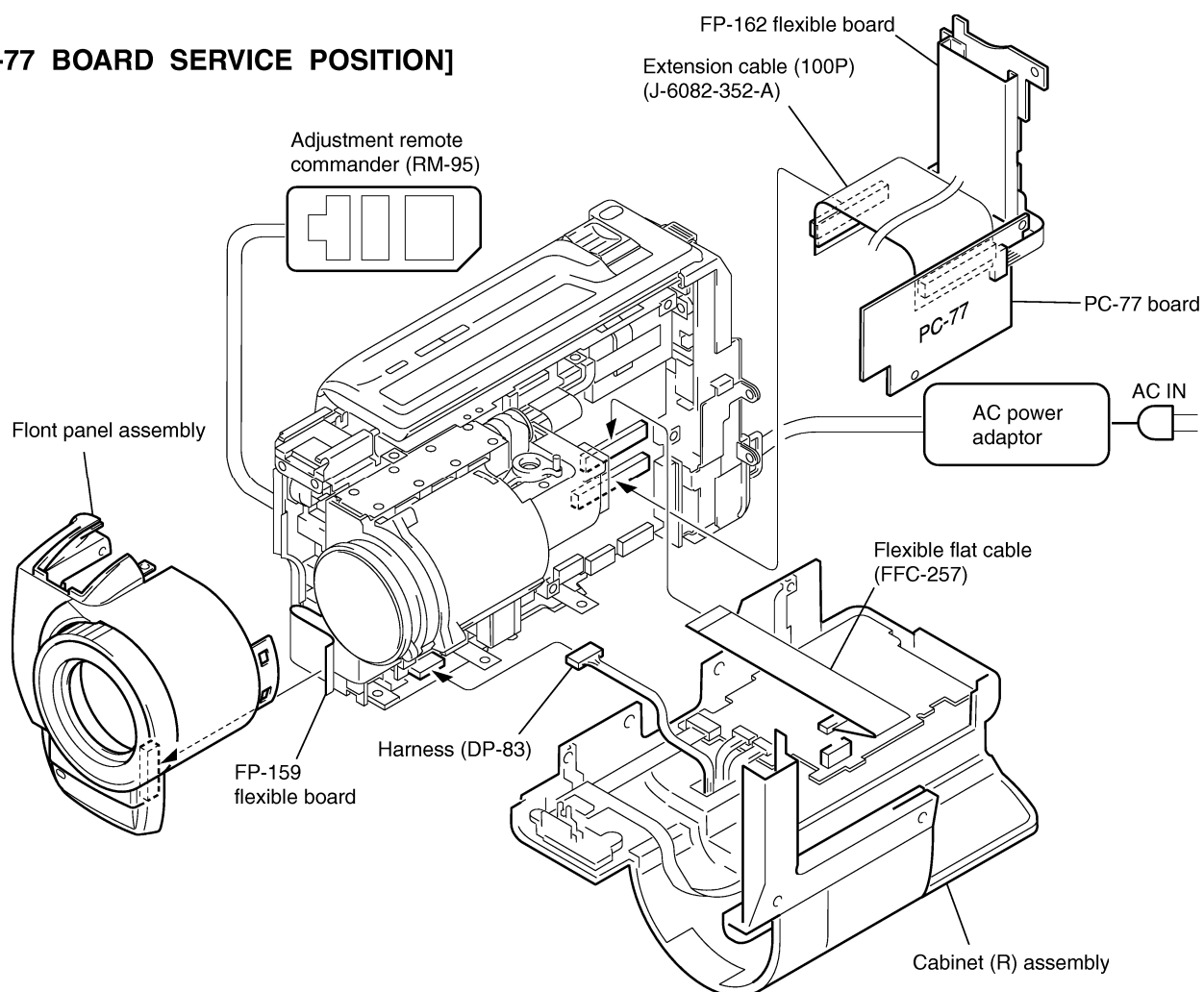
2-13. PC-77 BOARD



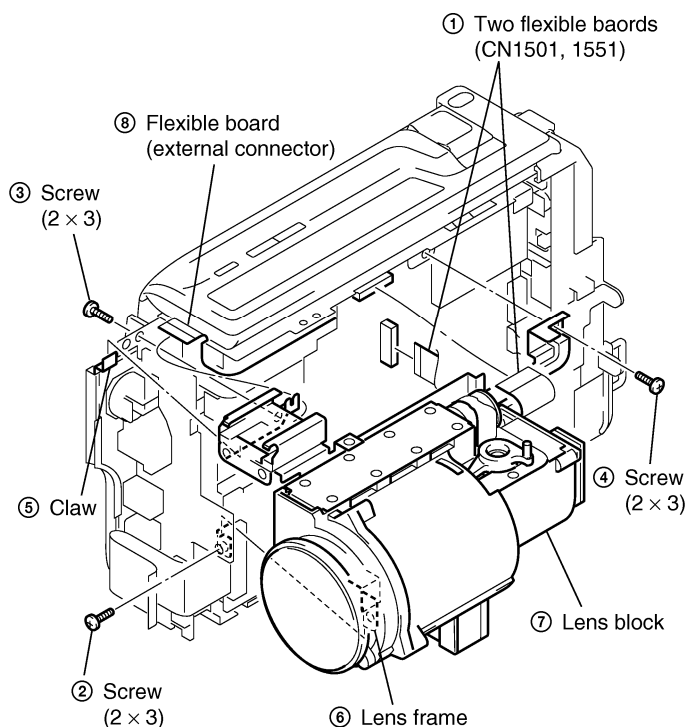
2-15. BATTERY PANEL ASSEMBLY, FP-162 FLEXIBLE BOARD



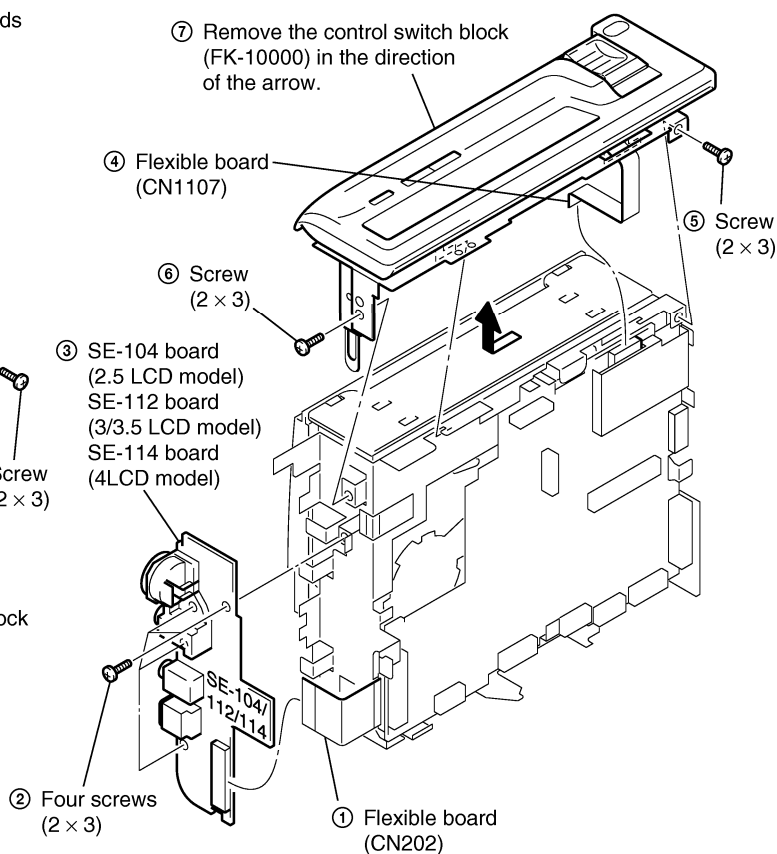
[PC-77 BOARD SERVICE POSITION]



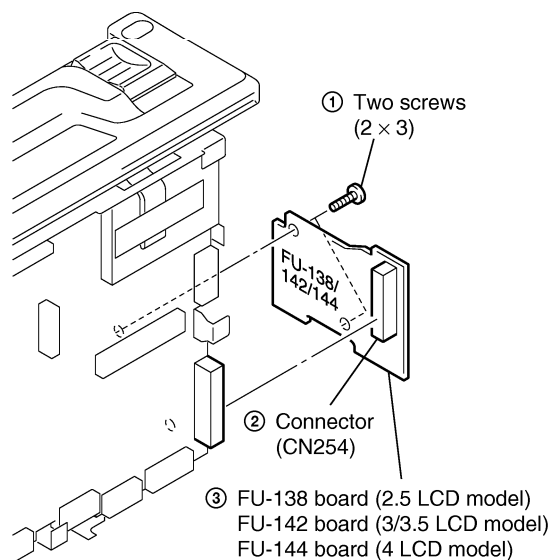
2-16. LENS BLOCK



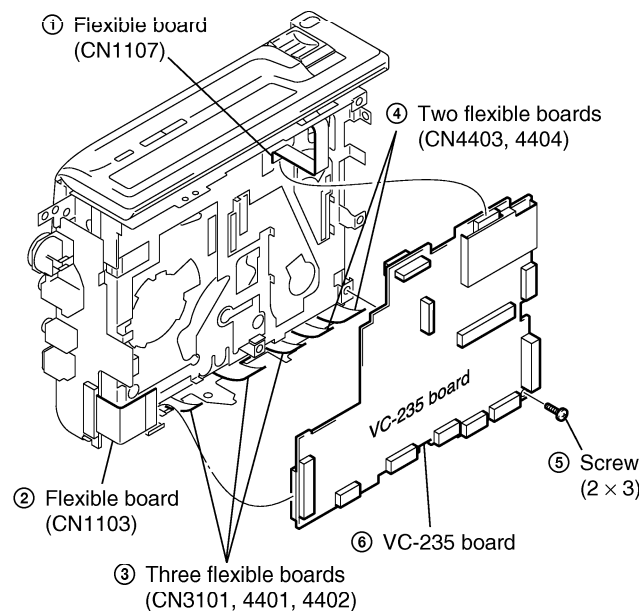
2-17. SE-104/112/114 BOARD, CONTROL SWITCH BLOCK (FK-10000)



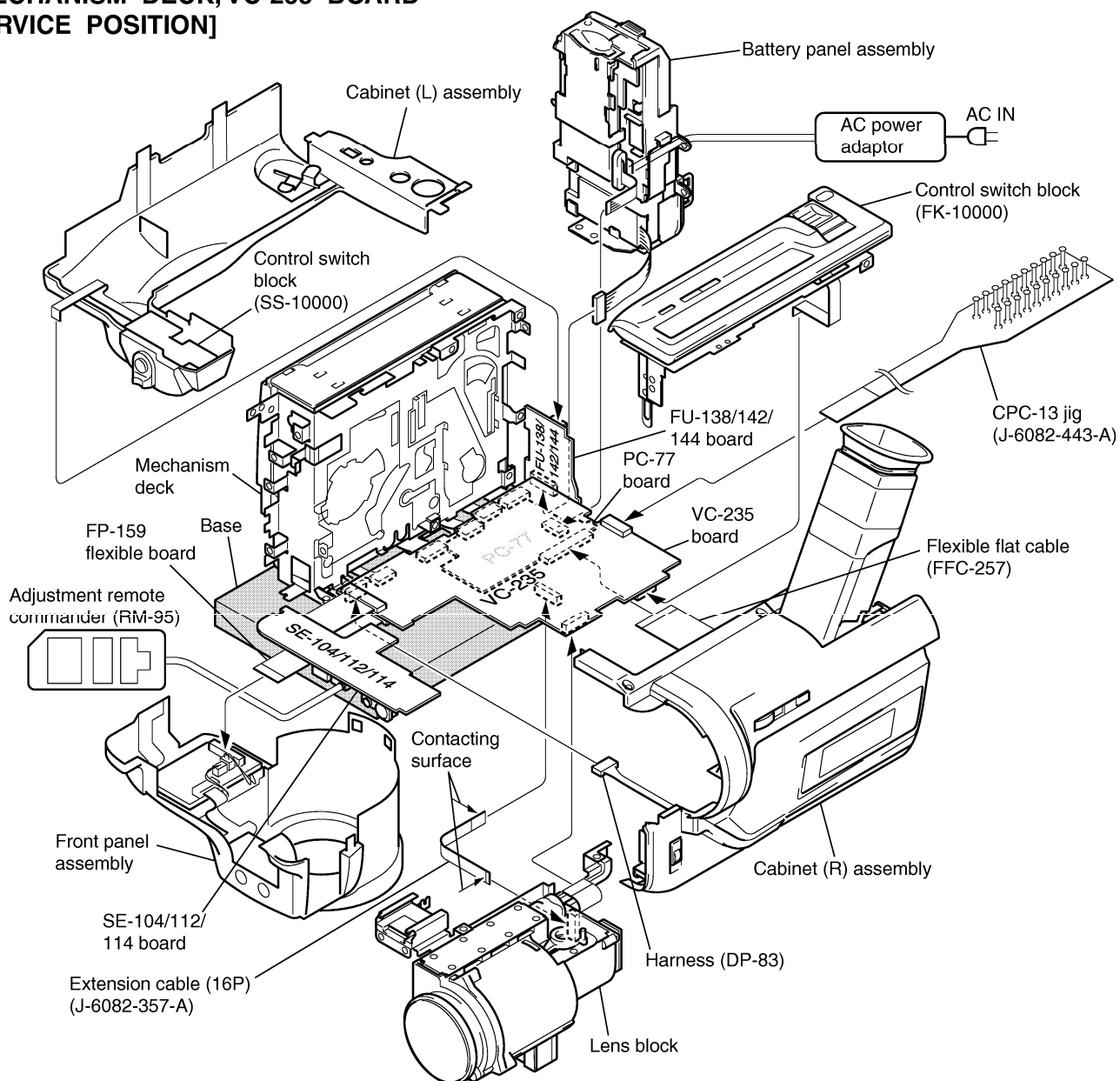
2-18. FU-138/142/144 BOARD



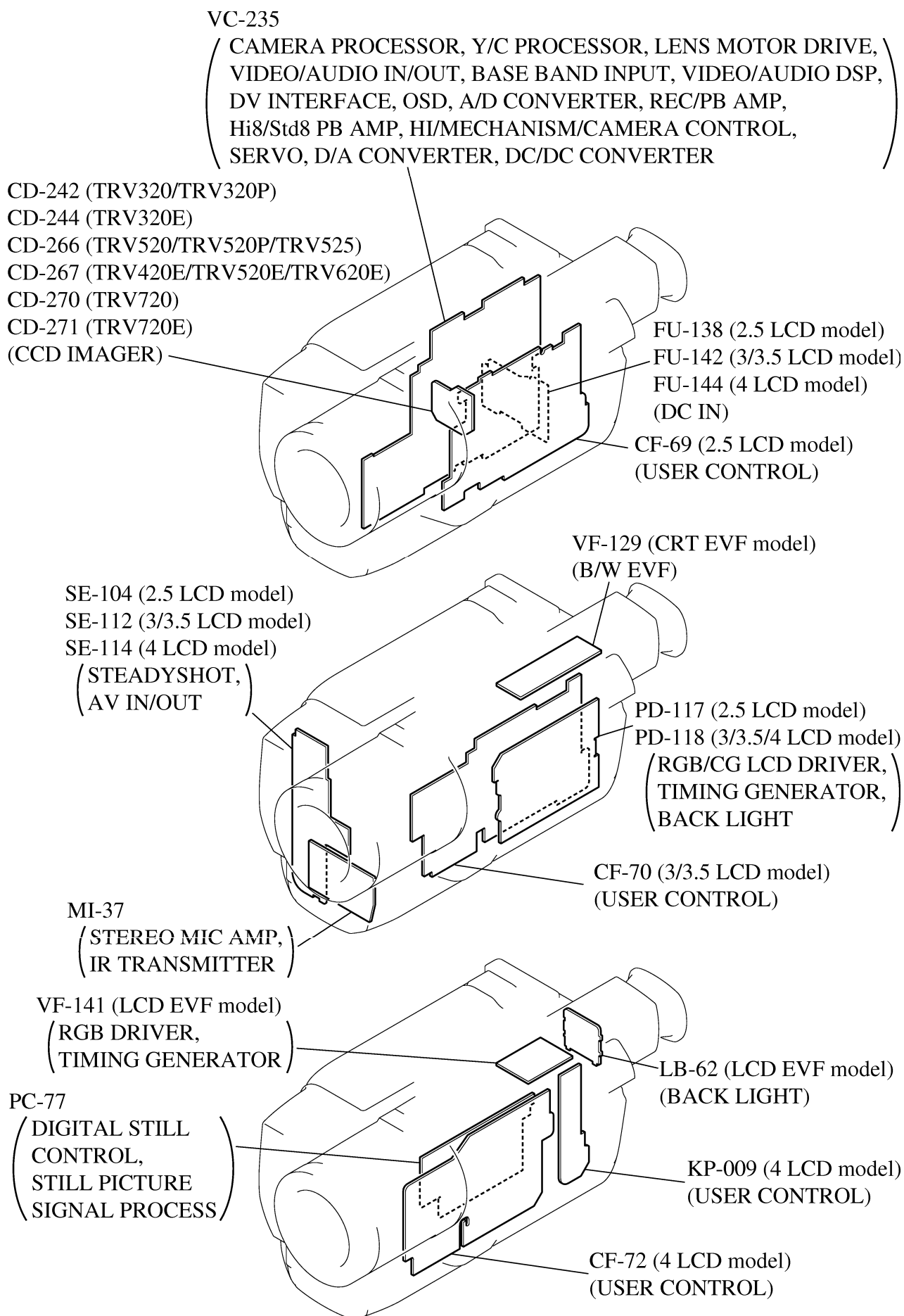
2-19. VC-235 BOARD



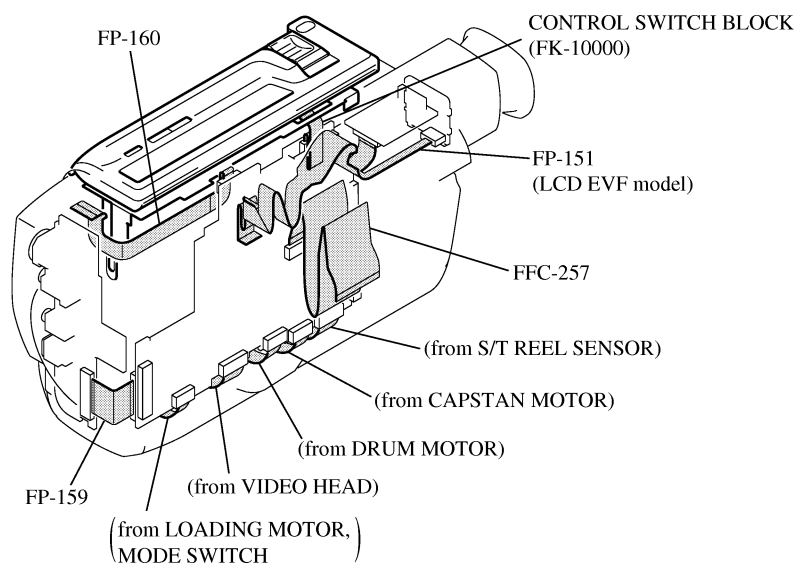
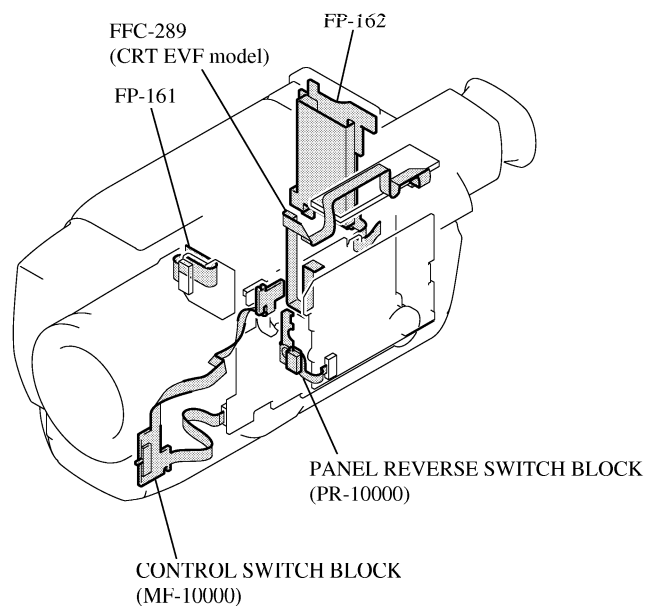
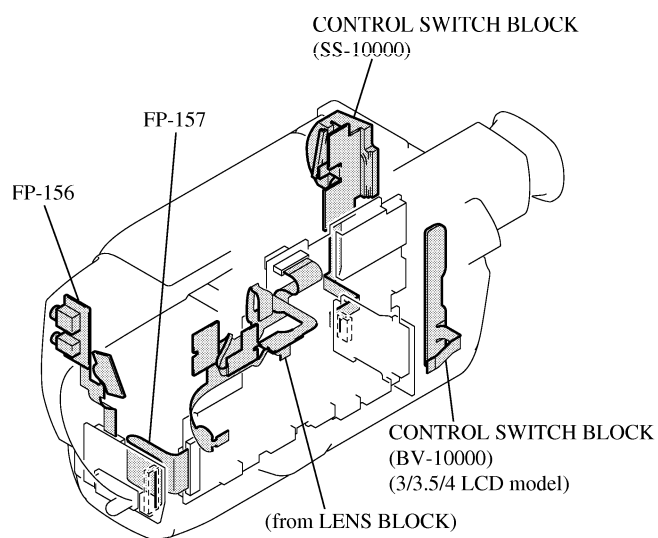
[MECHANISM DECK, VC-235 BOARD SERVICE POSITION]



2-20. CIRCUIT BOARDS LOCATION



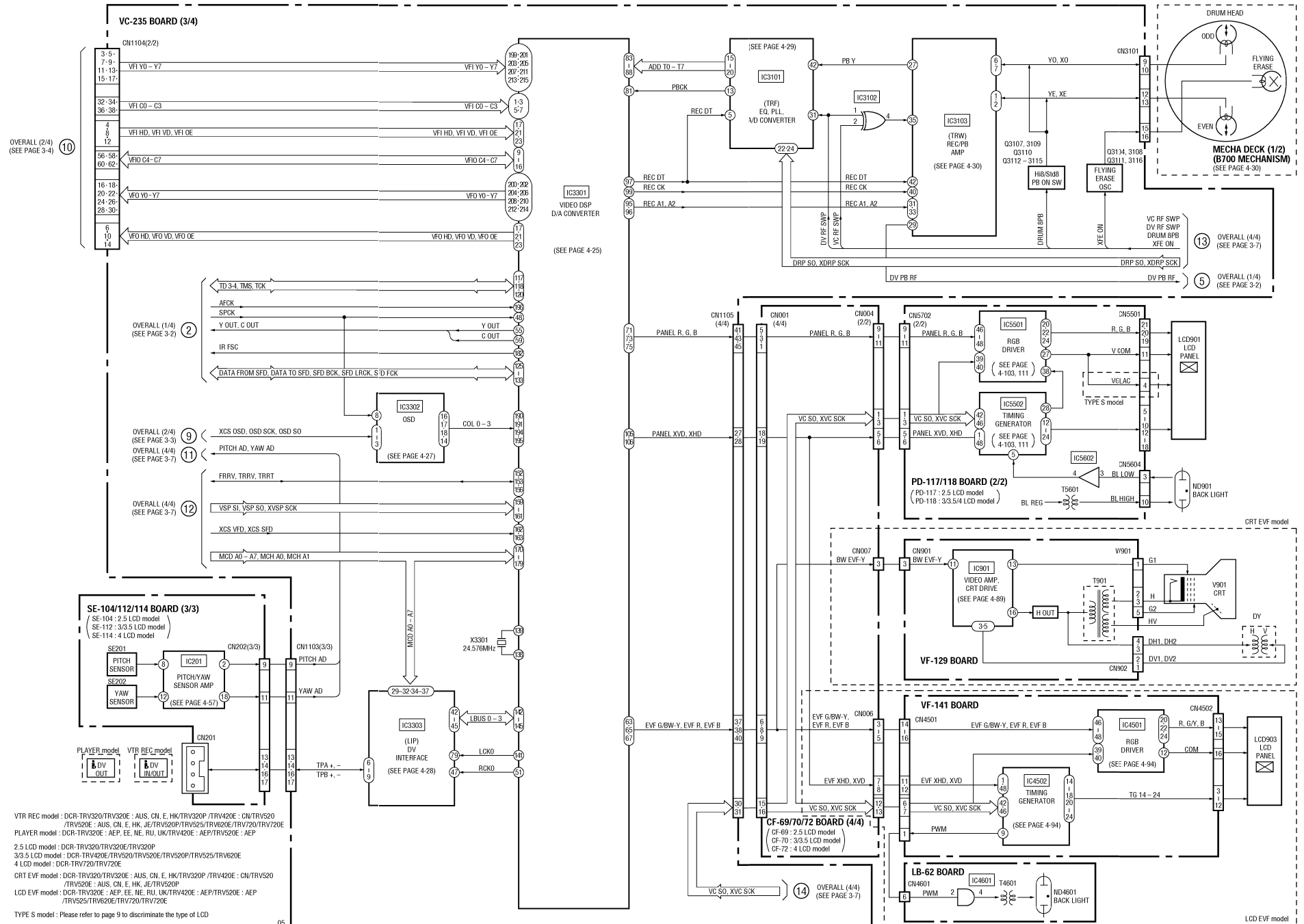
2-21. FLEXIBLE BOARDS LOCATION



[illegible]

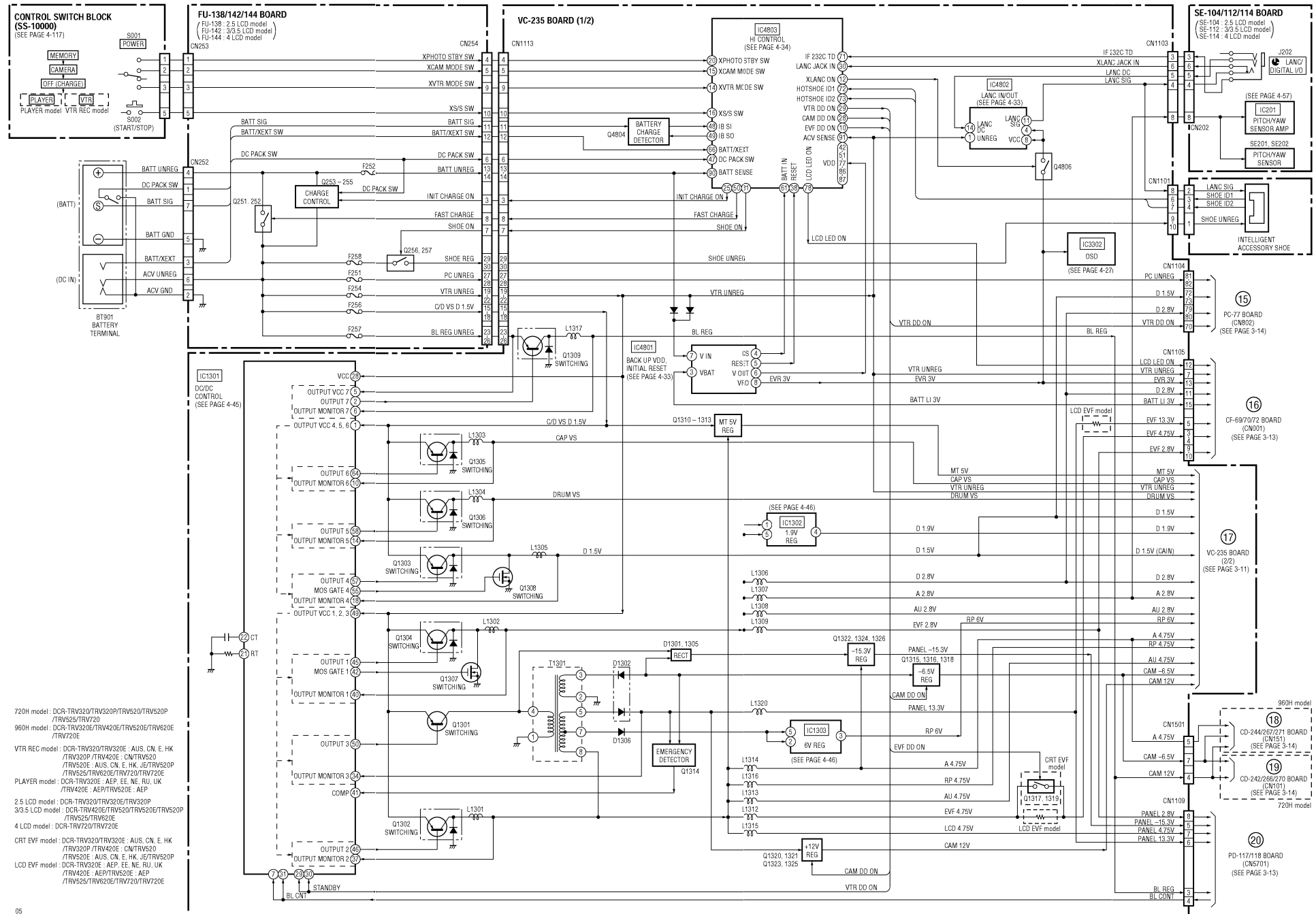
3-2. OVERALL BLOCK DIAGRAM 2

3-3. OVERALL BLOCK DIAGRAM 3

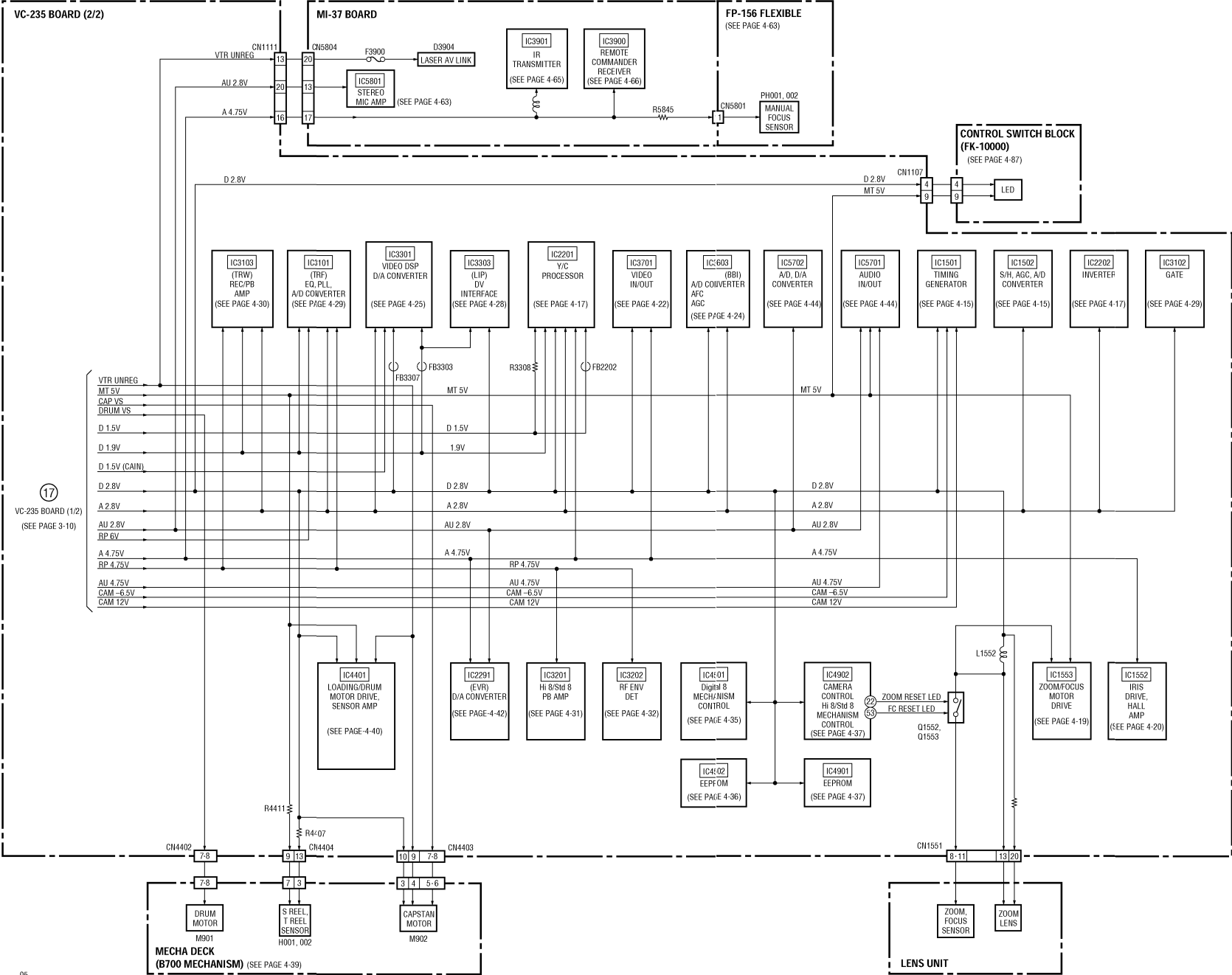




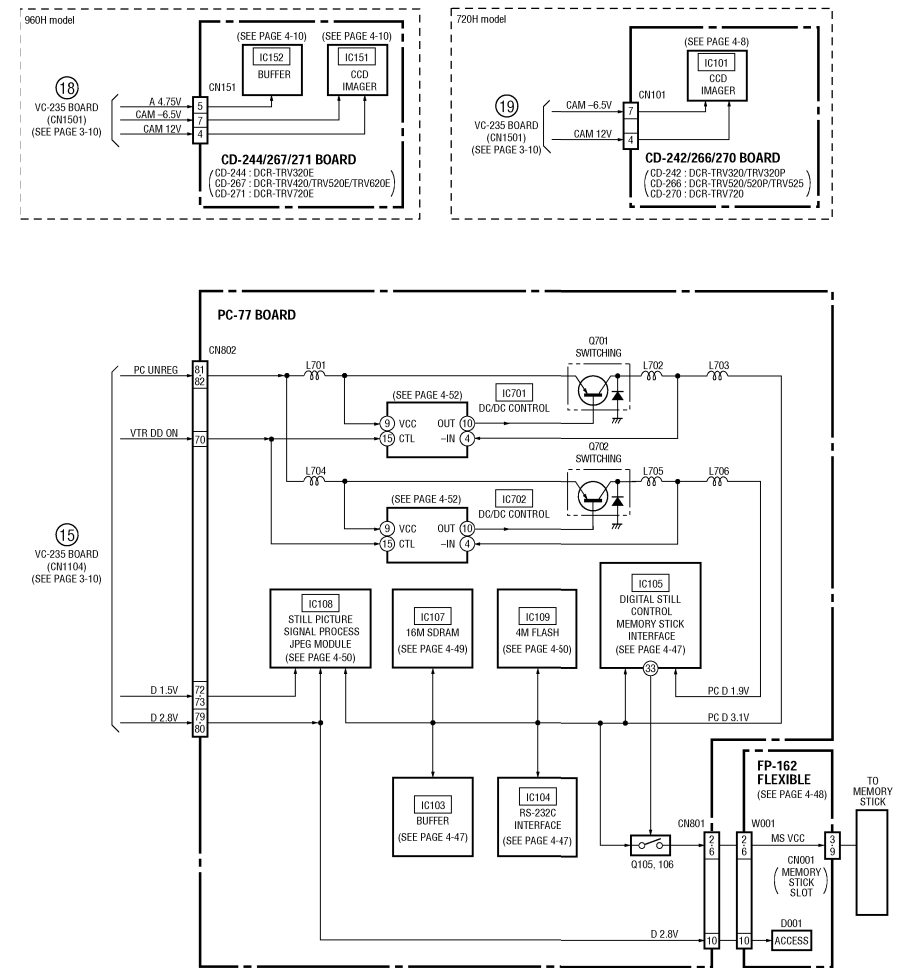
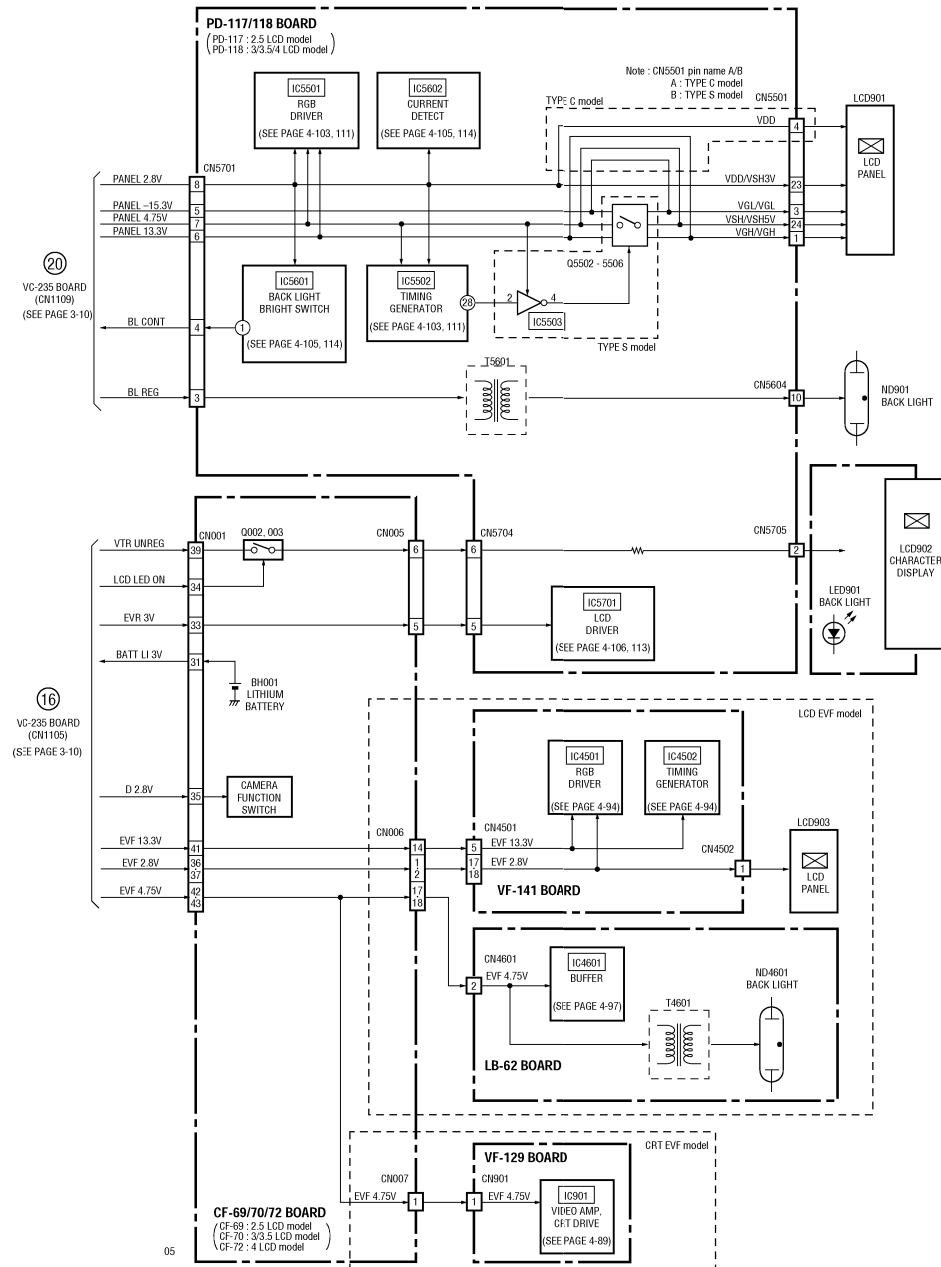
3-5. POWER BLOCK DIAGRAM 1



3-6. POWER BLOCK DIAGRAM 2



3-7. POWER BLOCK DIAGRAM 3



720M model : DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960M model : DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

2.5 LCD model : DCR-TRV320P/TRV320E/TRV320P
3/3.5_C.D model : DCR-TRV420E/TRV520E/TRV520P/TRV525E/TRV620E
4 LfV model : DCR-TRV720/TRV720E

CRT E/F model : DCR-TRV320/TRV320E_AUS, CN, E, HK/TRV320P/TRV420E_CN/TRV520
_TRV520E_AUS, CN, E, HK, RJ/UTV520P

LCD E/F model : DCR-TRV320E_AEP, EE, NE, RU/TRV420E_AEP/TRV520E_AEP
_TRV525E/TRV620E/TRV720/TRV720E

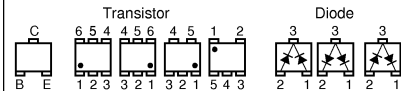
TYPE C/S model : Please refer to page 9 to discriminate the type of LCD

DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 SECTION 4 TRV620E/TRV720/TRV720E PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

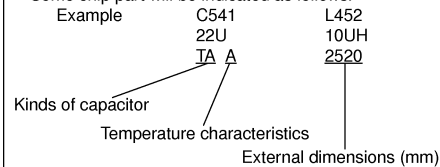
(For printed wiring boards)

- Pattern from the side which enables seeing.
(The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\text{F} : 50 \text{ V}$ or less are not indicated except for electrolytics and tantalums.
- Chip resistors are $1/10 \text{ W}$ unless otherwise noted. $\text{k}\Omega = 1000 \Omega$, $\text{M}\Omega = 1000 \text{ k}\Omega$.
- Caution when replacing chip parts.
New parts must be attached after removal of chip.
Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.



- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
In such cases, the unused circuits may be indicated.
- Parts with \star differ according to the model/destination.
Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
XEDIT \rightarrow EDIT PB/XREC \rightarrow PB/REC
- \square : non flammable resistor
- \square : fusible resistor
- \square : panel designation
- \square : B+ Line *
- \square : B- Line *
- \square : IN/OUT direction of (+,-) B LINE. *
- \square : adjustment for repair. *
- Circled numbers refer to waveforms. *
- * Indicated by the color red.

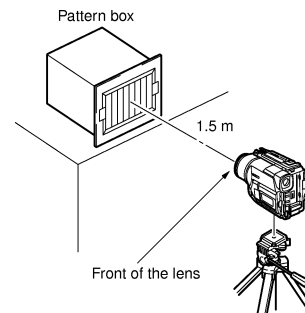
Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Note : Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

(Measuring conditions voltage and waveform)

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms. *
- (VOM of DC $10 \text{ M}\Omega$ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

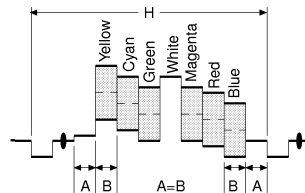


Fig. a (Video output terminal output waveform)

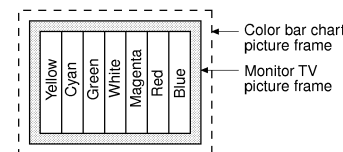


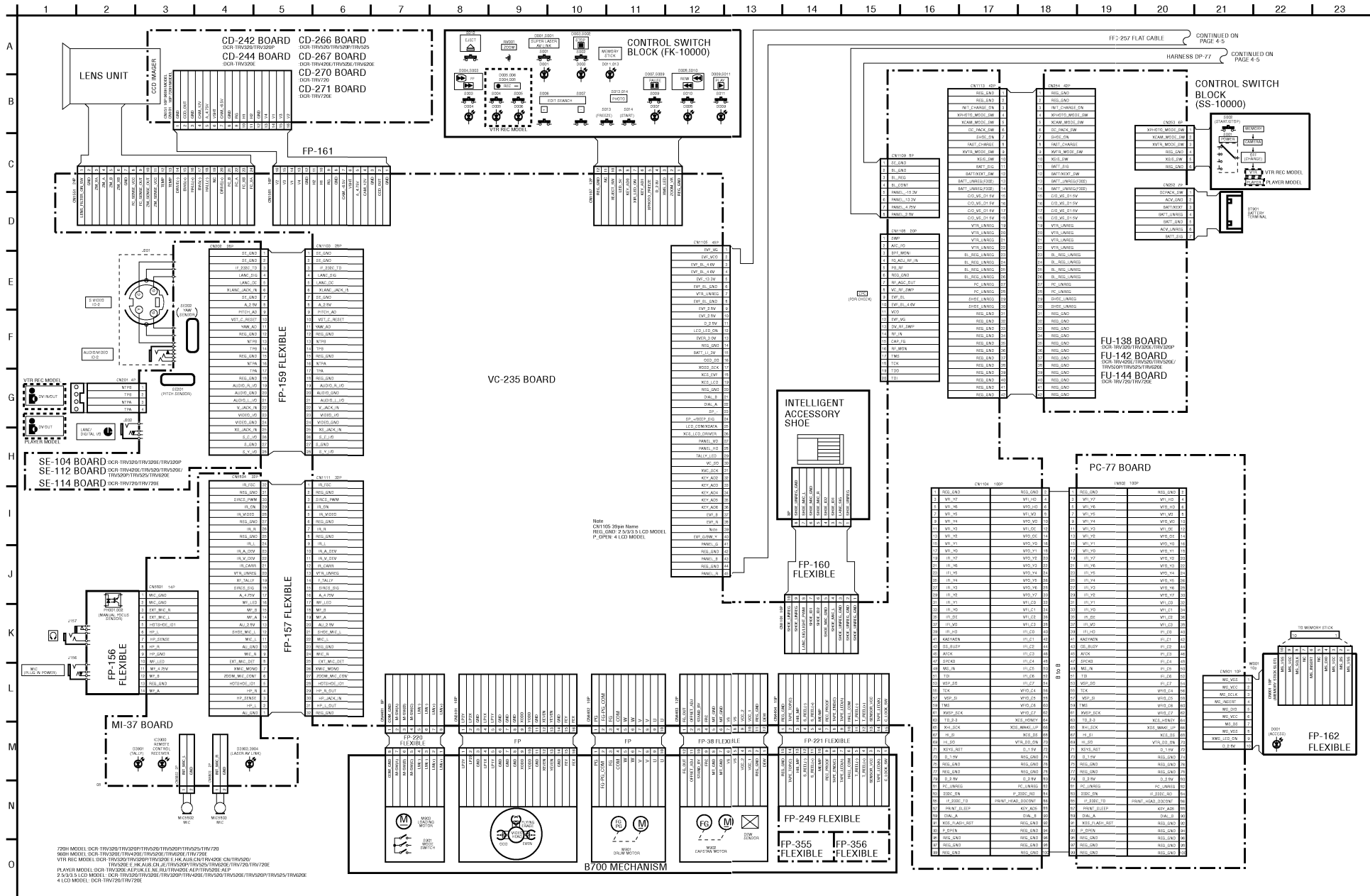
Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

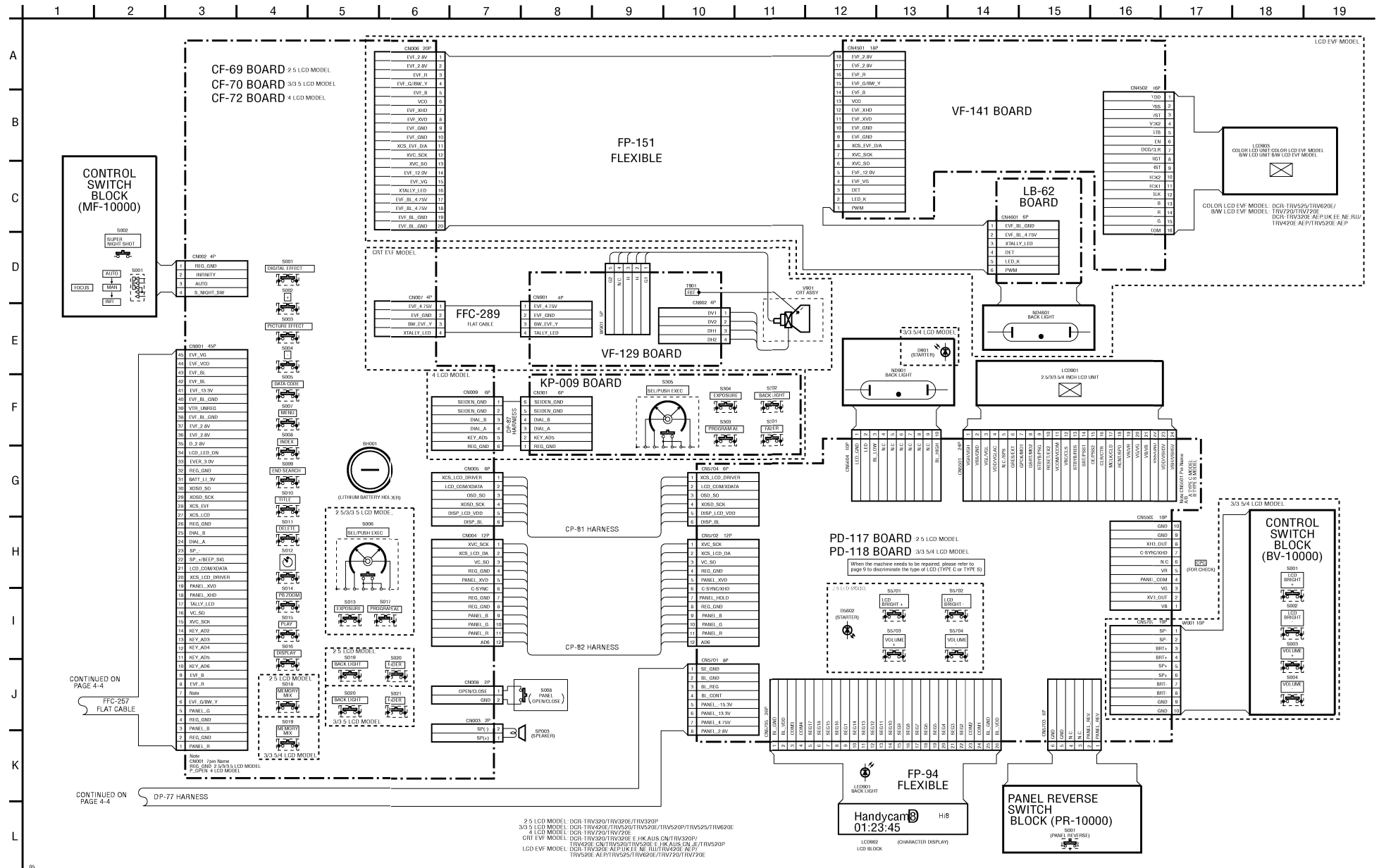
DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

4-1. FRAME SCHEMATIC DIAGRAMS

FRAME (1/2) SCHEMATIC DIAGRAM



FRAME (2/2) SCHEMATIC DIAGRAM



DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

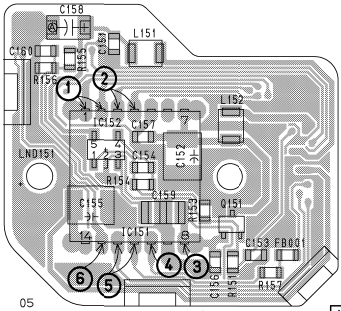
CD-242/266/270 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM • See page 4-119 for waveforms.

- Ref. No.: CD-242/266/270 board; 20,000 series –
- DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 –

- For Printed Wiring Board.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- Chip transistor



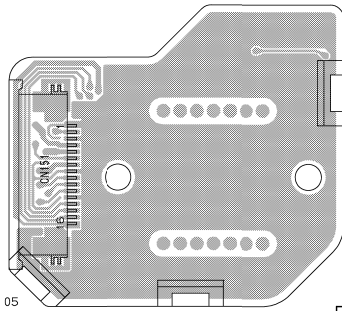
CD-244/267/271 BOARD
(SIDE A)



CD-244:1-676-774-
CD-267:1-676-760-
CD-271:1-676-767-

12 (22)
11 (21)
11

CD-244/267/271 BOARD
(SIDE B)



CD-244:1-676-774-
CD-267:1-676-760-
CD-271:1-676-767-

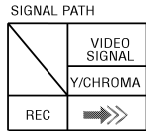
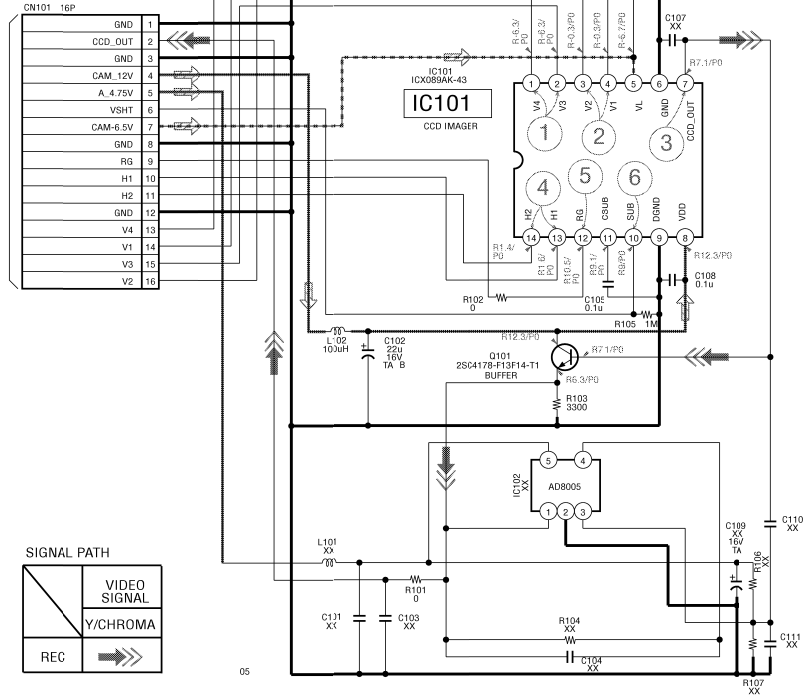
12 (22)
11 (21)
11

CD-242 BOARD (DCR-TRV320/TRV320P)
CD-266 BOARD (DCR-TRV520/TRV520P/TRV525)
CD-270 BOARD (DCR-TRV720)

CCD IMAGER
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT

R:REC MODE
P:PB MODE

VC-235 BOARD (1/16)
CN1501
(THROUGH THE
FP-161 FLEXIBLE)
(SEE PAGE 4-15)



Precautions for Replacement of CCD Imager

- The CD-242/266/270 board mounted as a repair part is not equipped with a CCD imager.
When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

CD-244/267/271 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM • See page 4-119 for waveforms.

– Ref. No.: CD-244/267/271 board; 20,000 series –

– DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E –

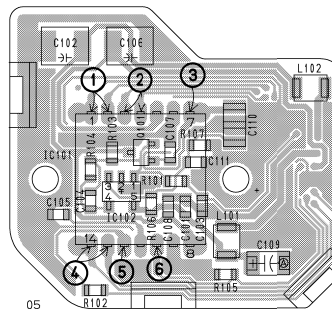
• For Printed Wiring Board.

• There are few cases that the part isn't mounted in this model is printed on this diagram.

• Chip transistor

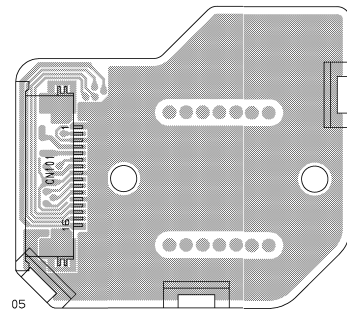


**CD-242/266/270 BOARD
(SIDE A)**



CD-242:1-676-773-
CD-266:1-676-759-
CD-270:1-676-766-
12 (22)
11 (21)
11

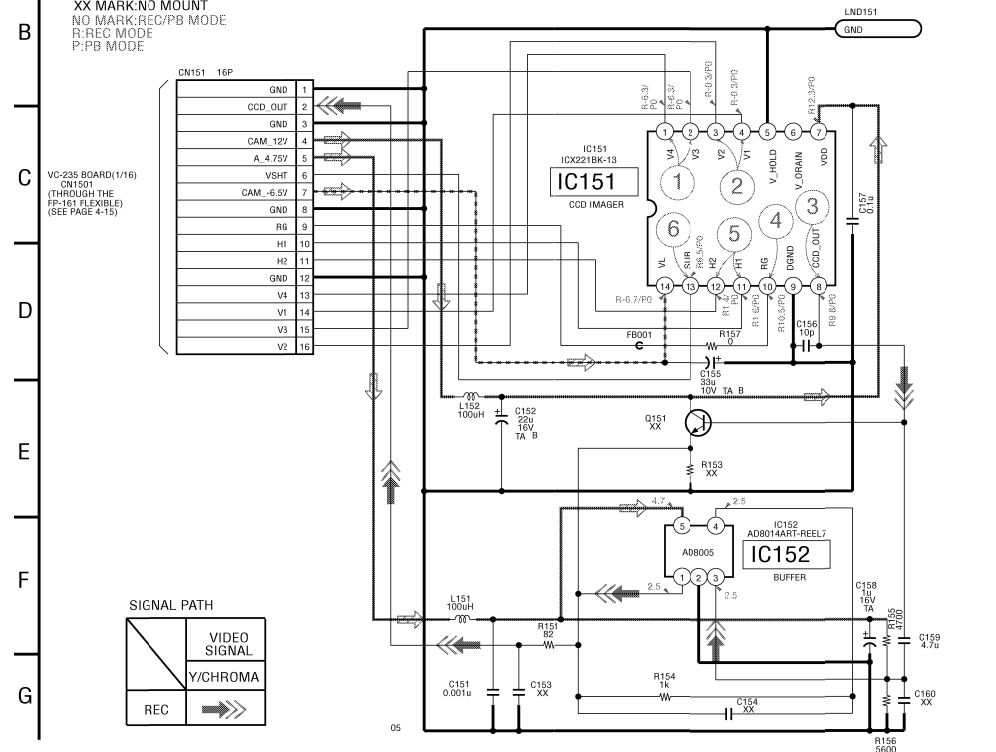
**CD-242/266/270 BOARD
(SIDE B)**



CD-242:1-676-773-
CD-266:1-676-759-
CD-270:1-676-766-
12 (22)
11 (21)
11

**CD-244 BOARD (DCR-TRV320E)
CD-267 BOARD (DCR-TRV420E/TRV520E/TRV620E)
CD-271 BOARD (DCR-TRV720E)**

CCD IMAGER
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE



Precautions for Replacement of CCD Imager

- The CD-244/267/271 board mounted as a repair part is not equipped with a CCD imager. When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

CCD IMAGER
CD-244/267/271

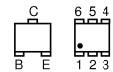
DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

VC-235 (CAMERA PROCESSOR, Y/C PROCESSOR, LENS MOTOR DRIVE, VIDEO/AUDIO IN/OUT, BASE BAND INPUT, VIDEO /AUDIO DSP, DV INTERFACE, OSD, A/D CONVERTER, REC/PB AMP, Hi8/Std8 PB AMP, HI/MECHANISM/CAMERA CONTROL, SERVO, D/A CONVERTER, DC/DC CONVERTER) PRINTED WIRING BOARD

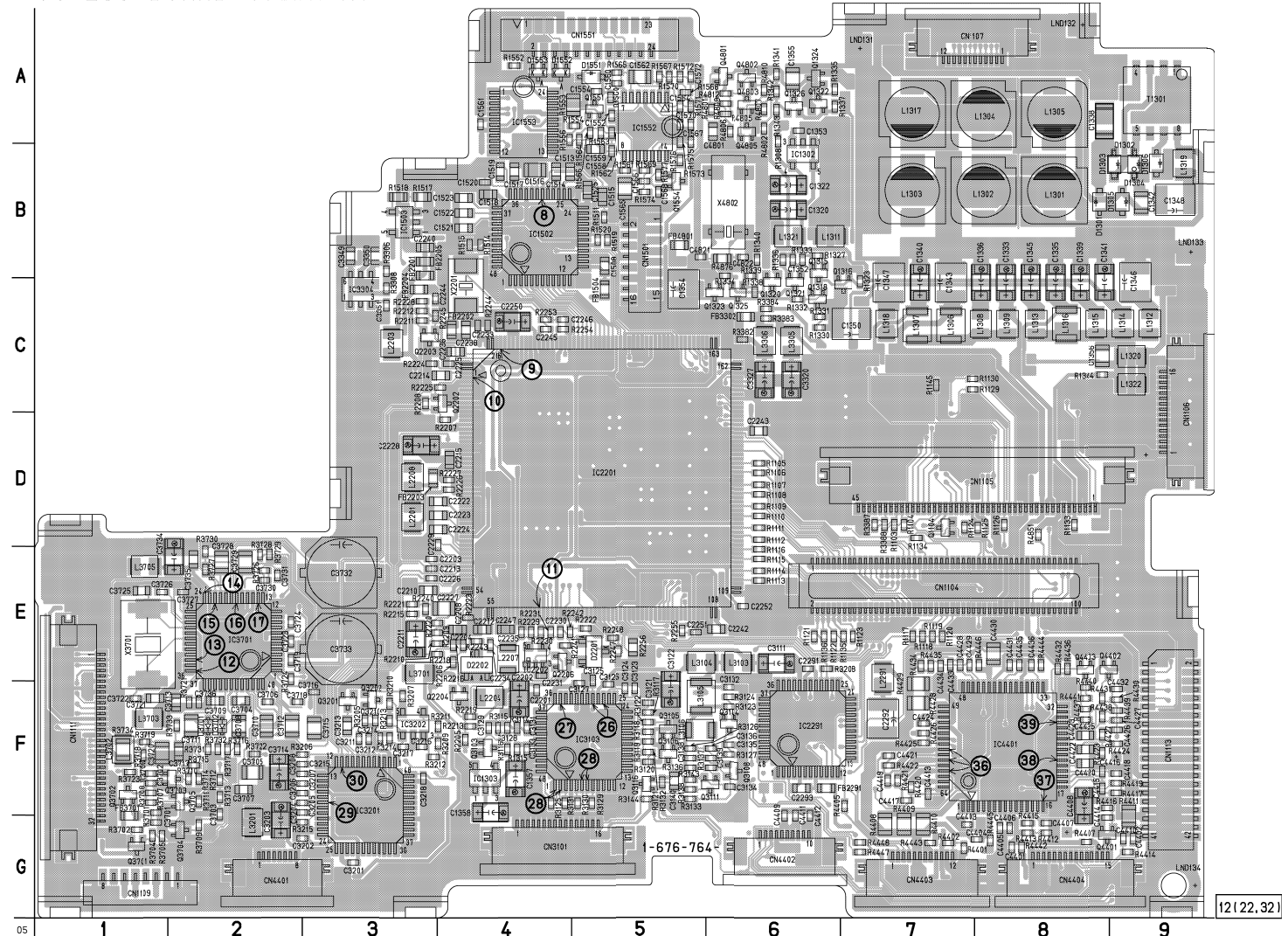
– Ref. No.: VC-235 board; 10,000 series –

• For Printed Wiring Board.

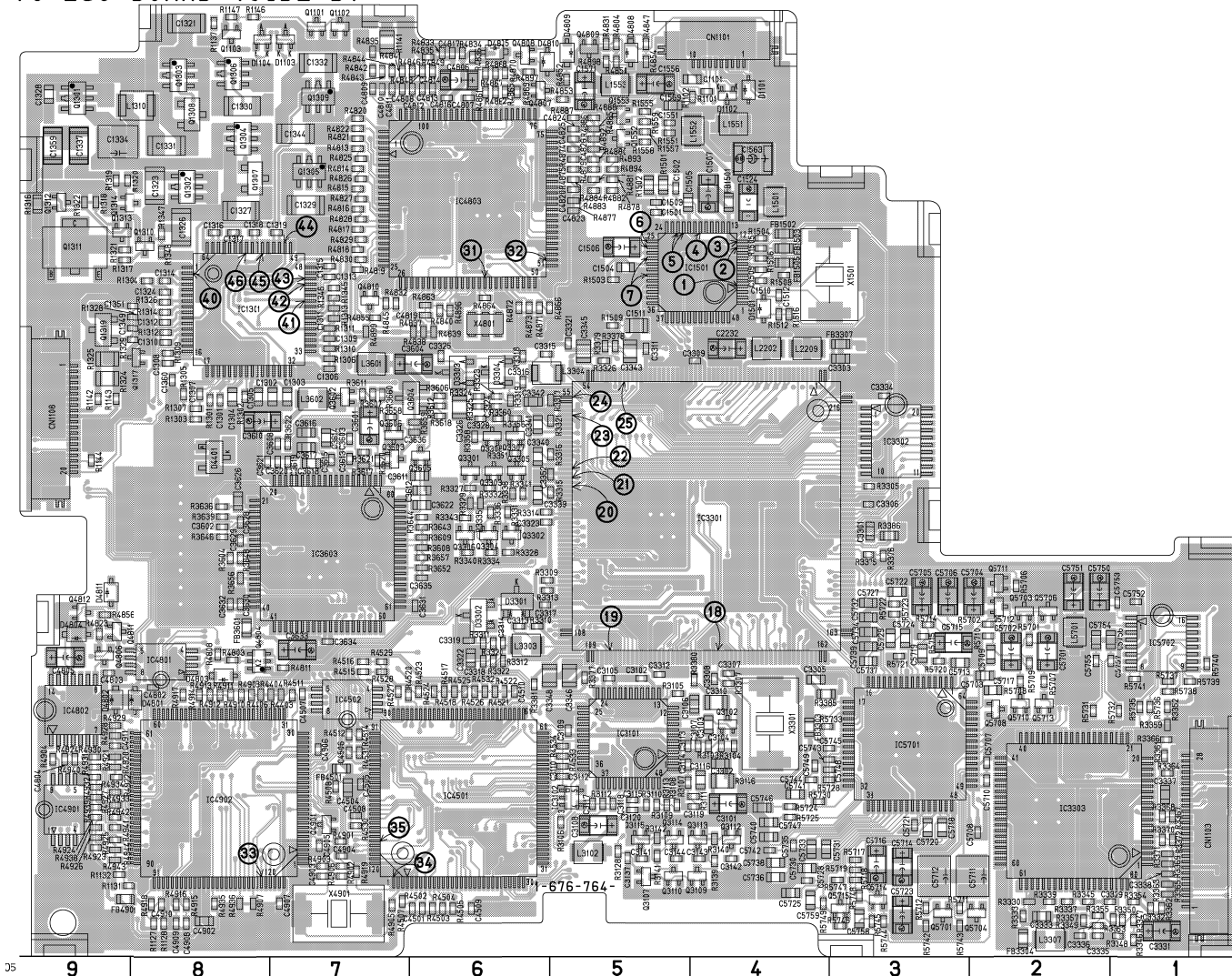
- VC-235 board is eight-layer print board. However, the patterns of layers 2 to 7 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-124, 125 for printed parts location.
- Chip transistor



VC-235 BOARD (SIDE A)



VC-235 BOARD (SIDE B)

VC-235 BOARD (SIDE B)
Part No. 1-676-764-13 (23, 33)

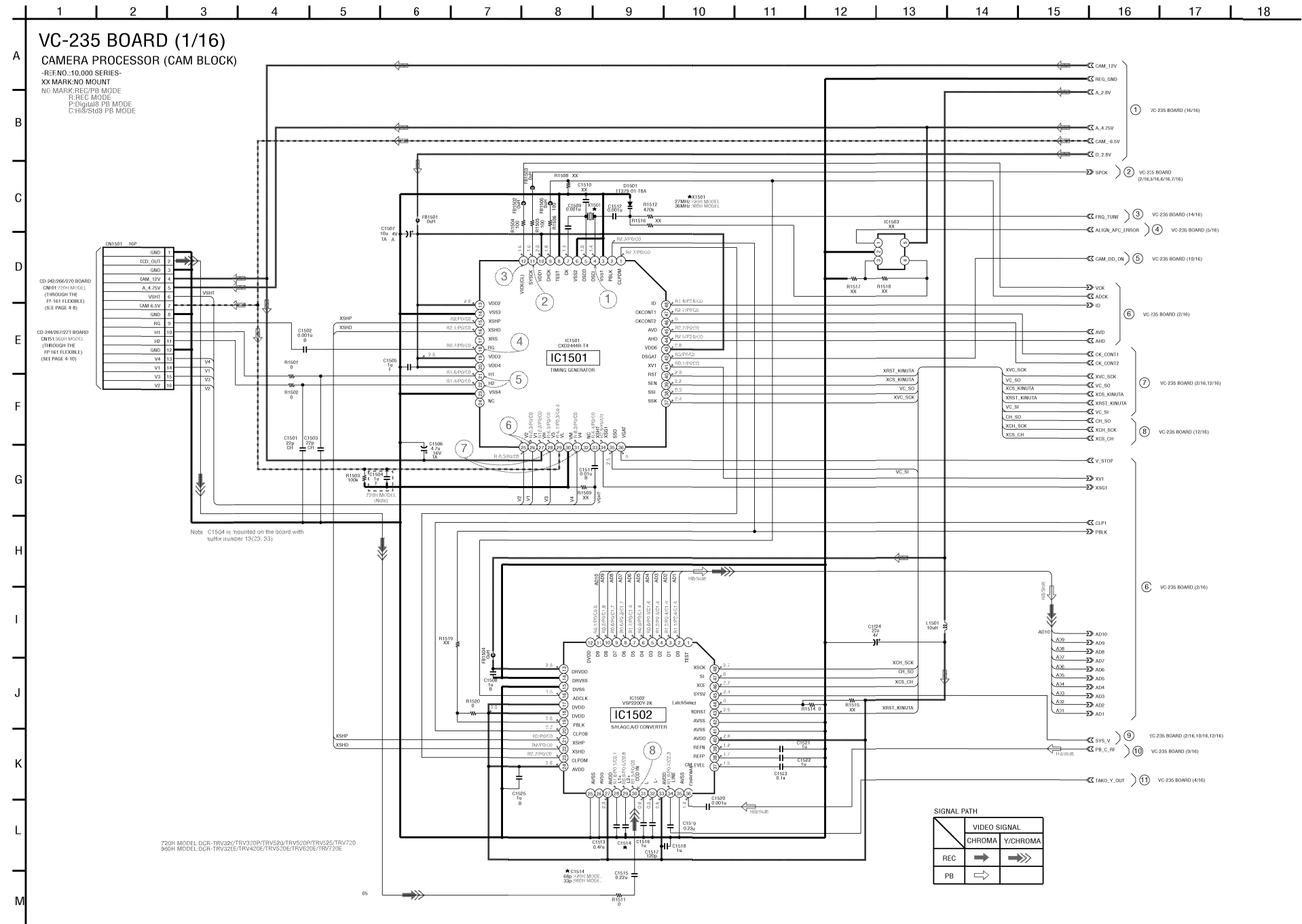
Location: B – 5

- Refer to the printed wiring board for suffix number **12 (22, 32)** for the parts not be shown here.

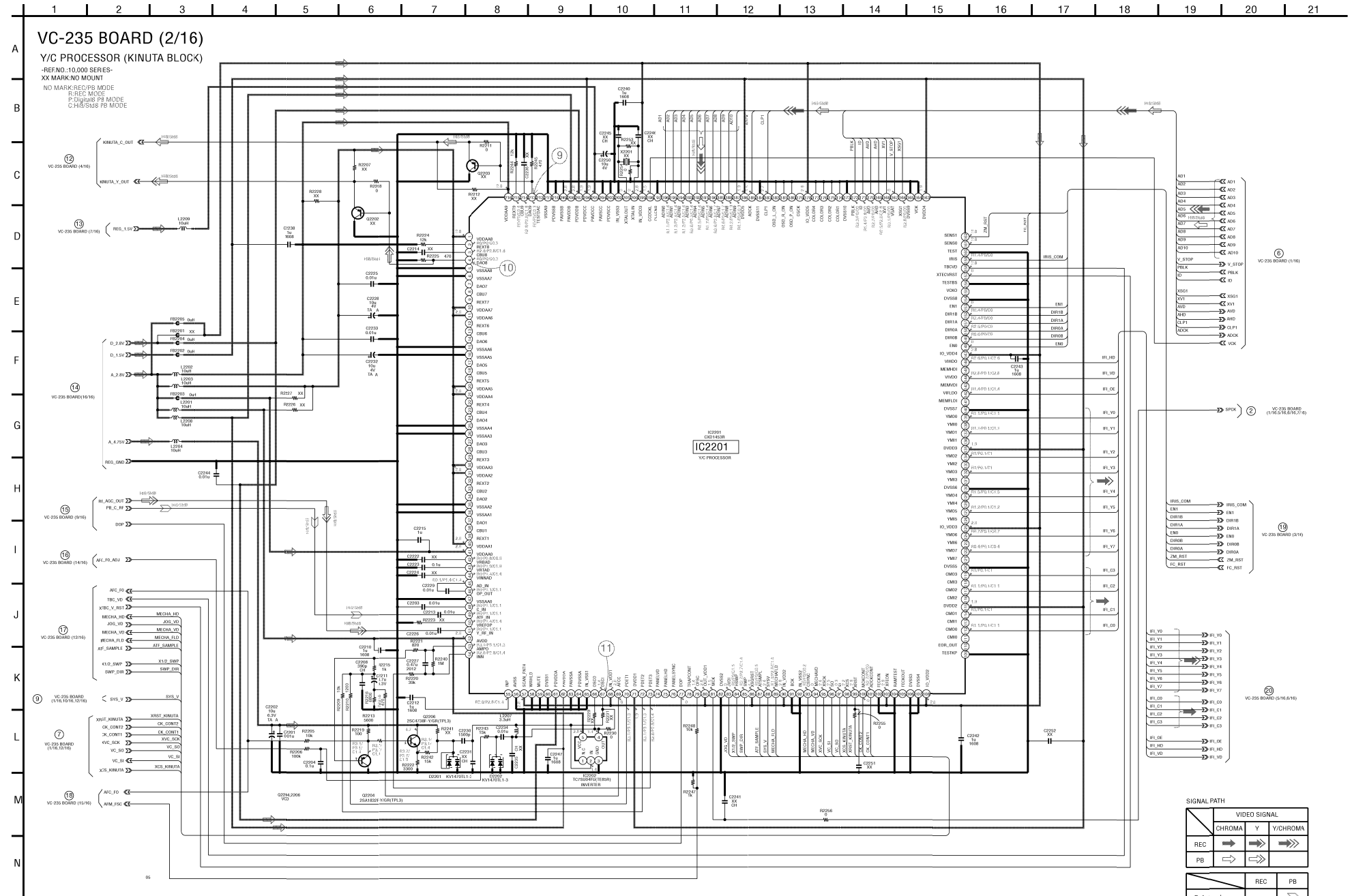


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

VC-235 (CAMERA PROCESSOR) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-119 for waveforms.

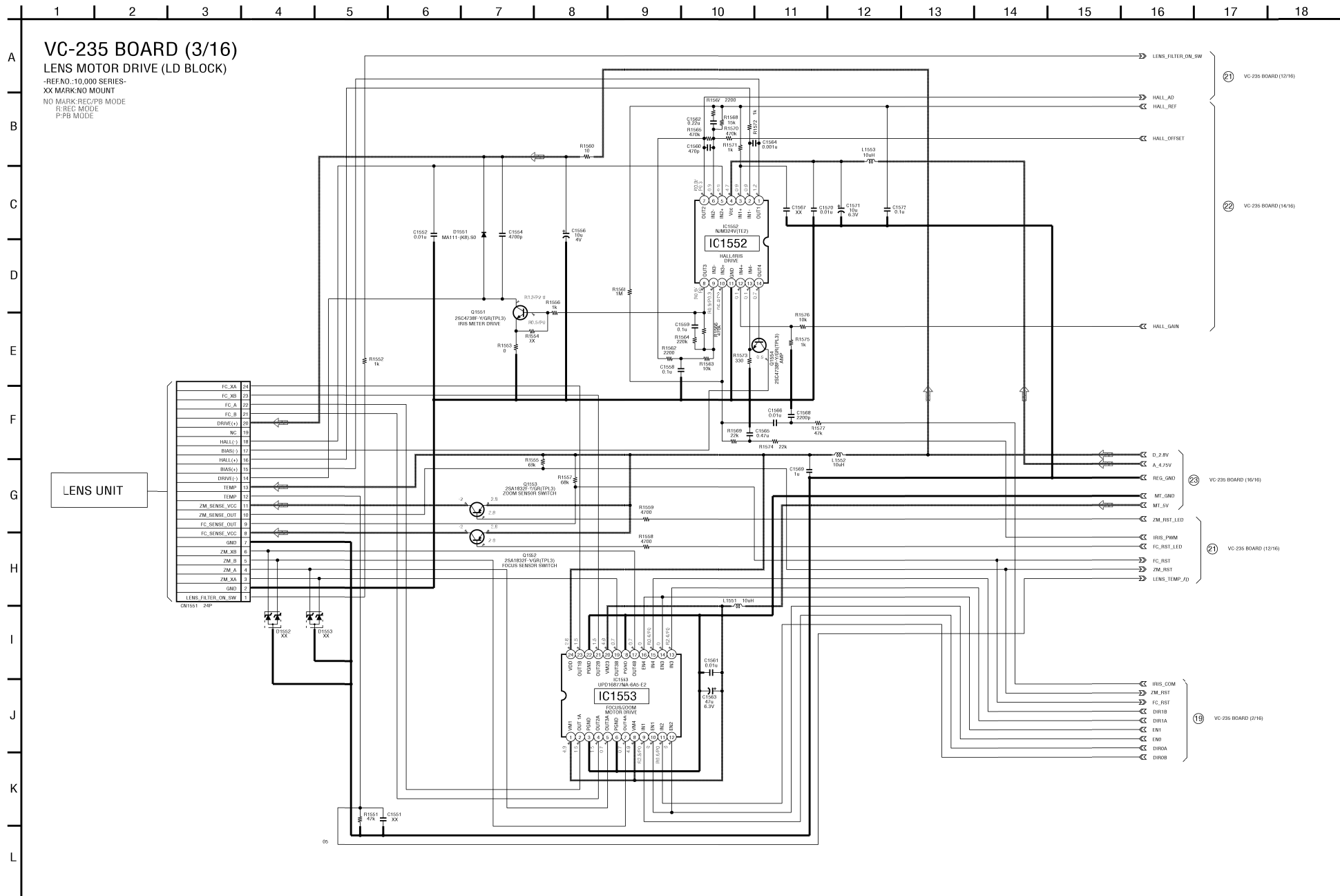


VC-235 (Y/C PROCESSOR) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-119, 120 for waveforms.

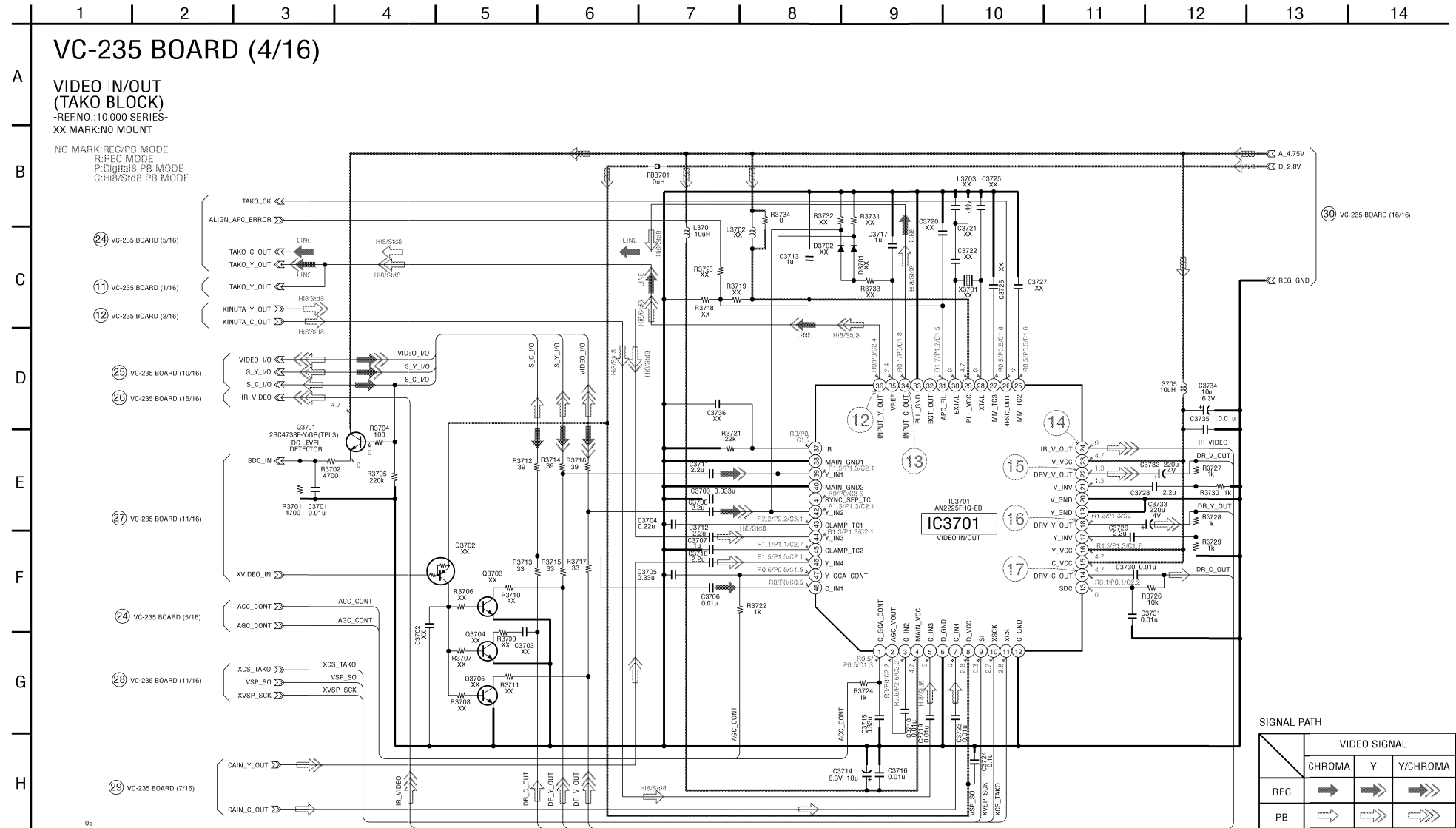


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

VC-235 (LENS MOTOR DRIVE) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.

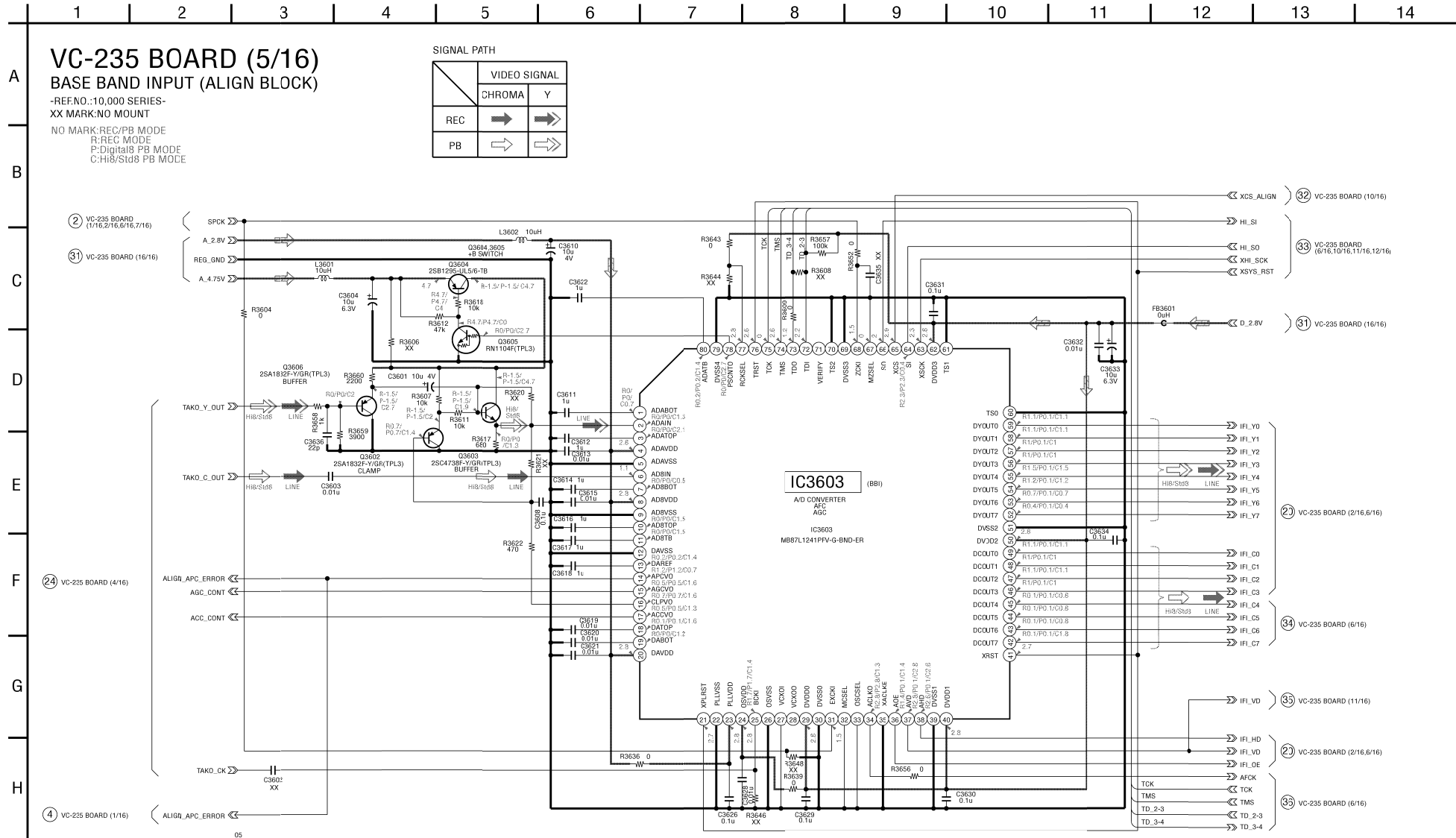


VC-235 (VIDEO IN/OUT) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.

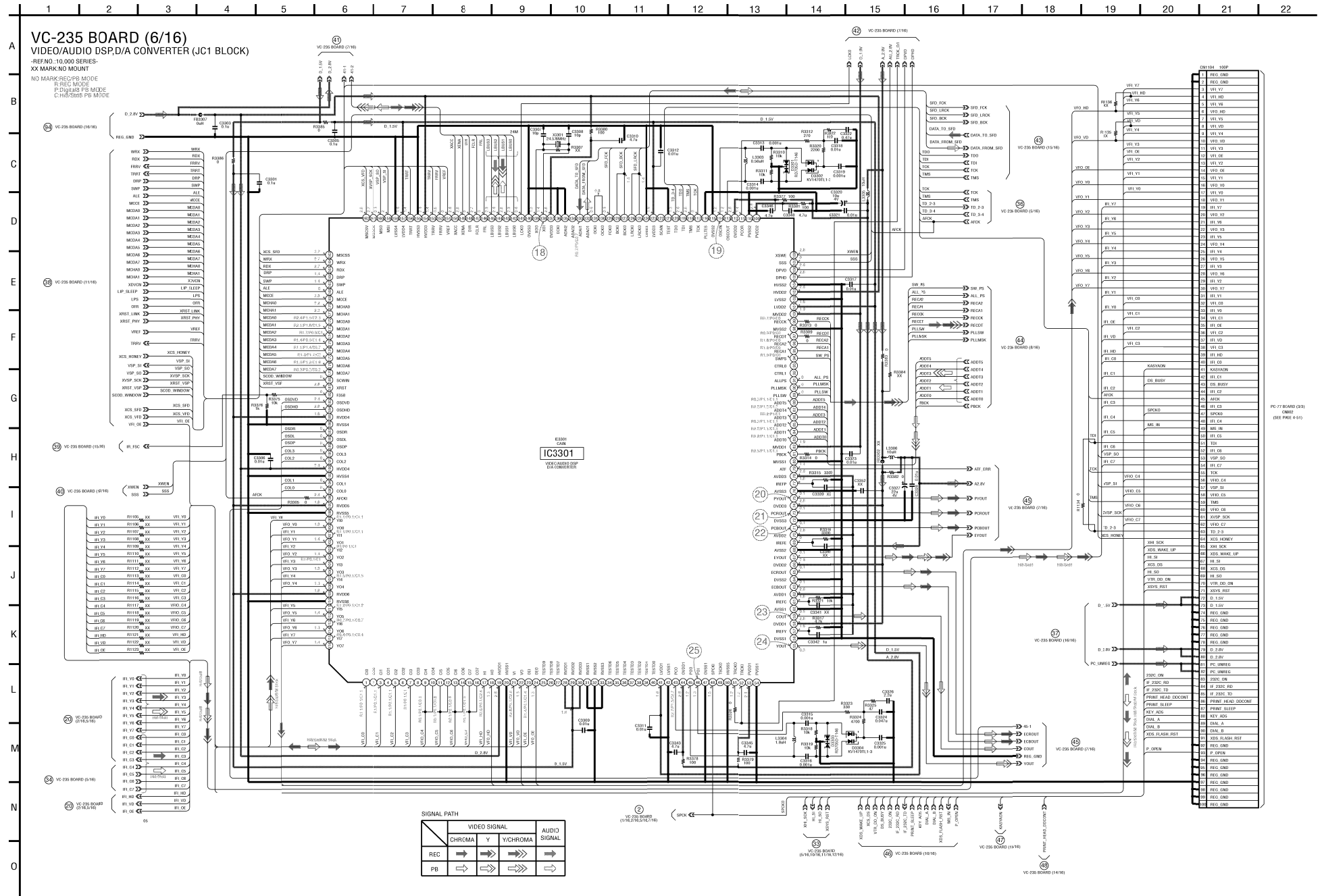


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

VC-235 (BASE BAND INPUT) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.

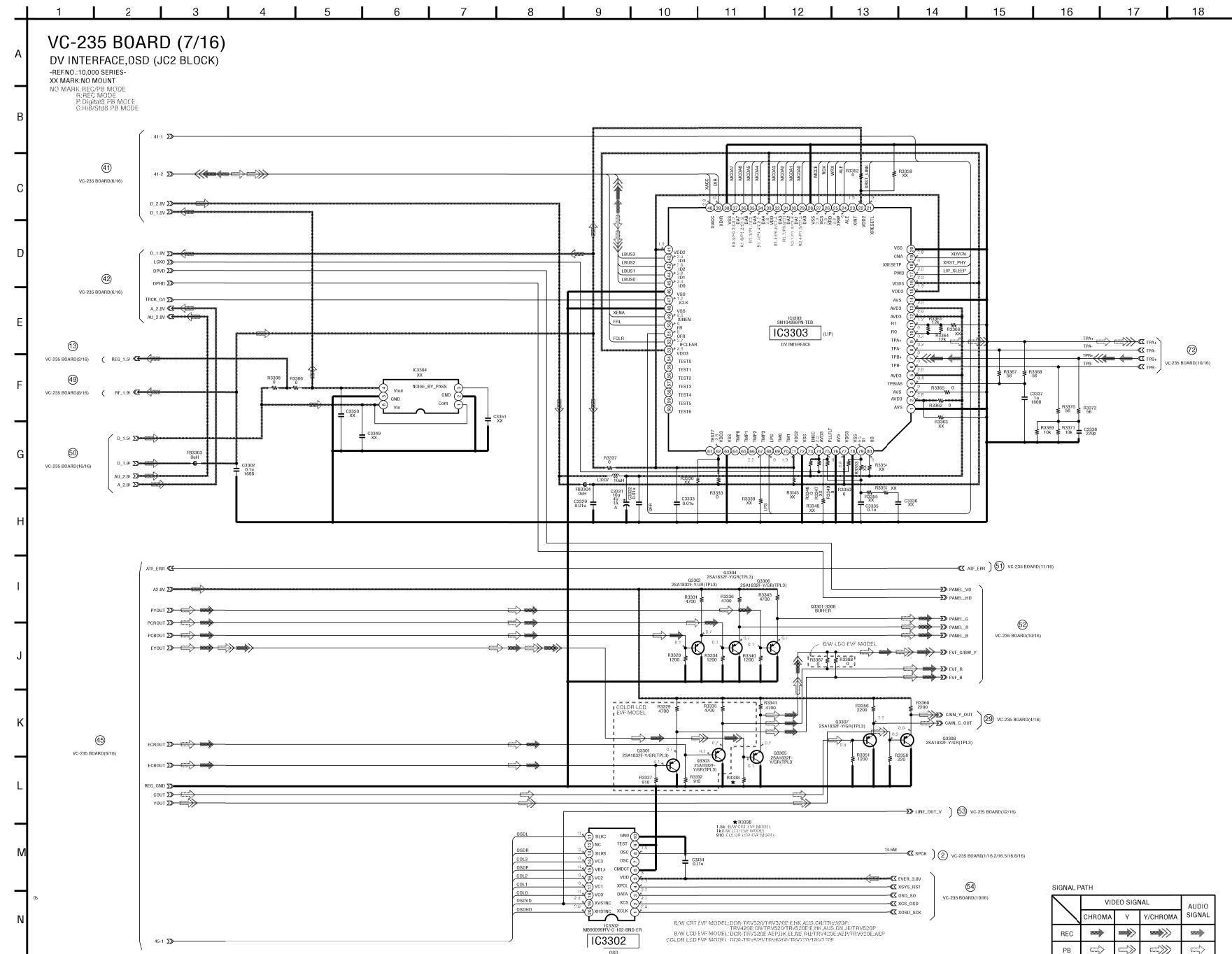


VC-235 (VIDEO/AUDIO DSP, D/A CONVERTER) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.

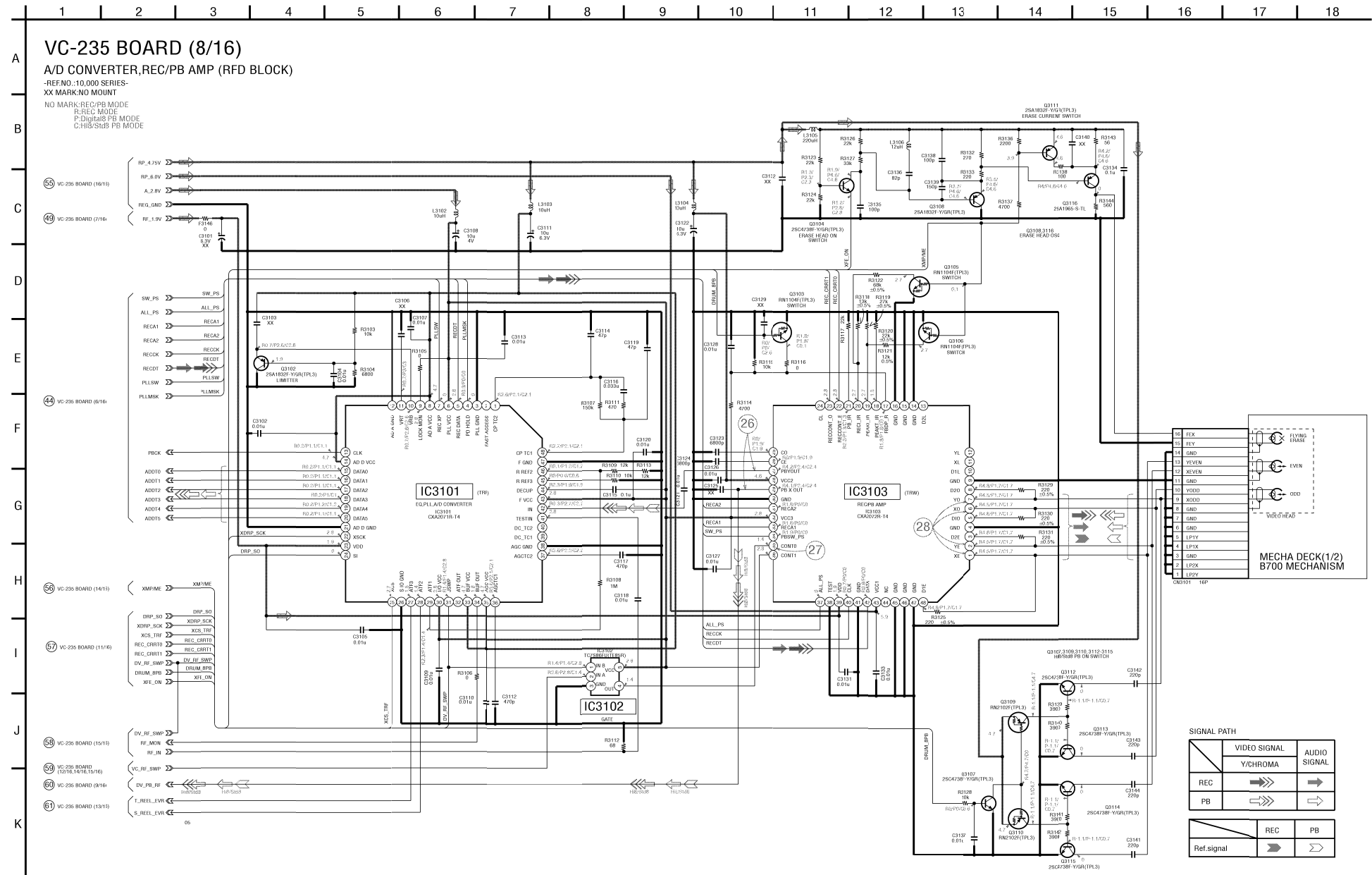


**DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E**

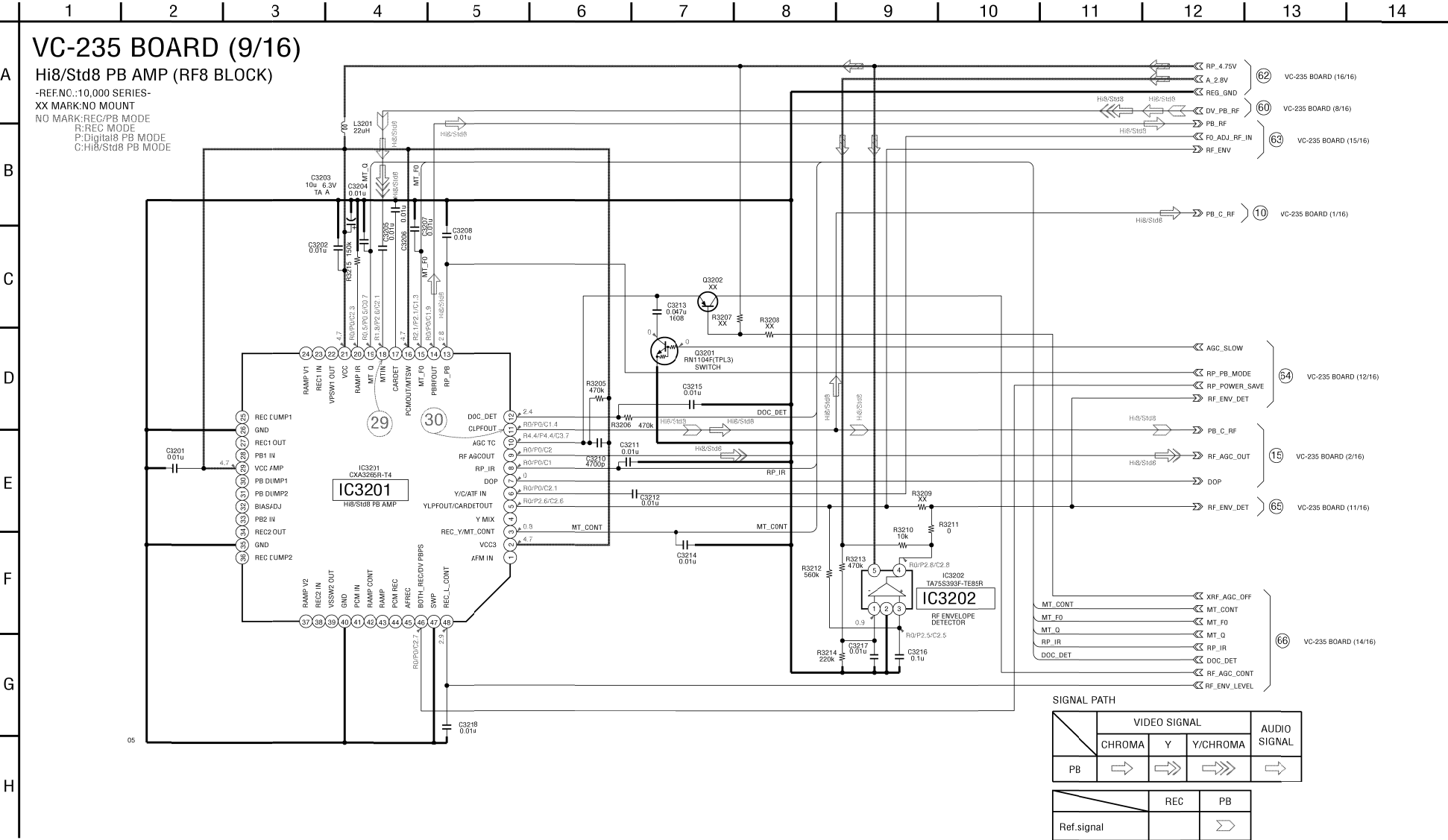
VC-235 (DV INTERFACE, OSD) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.



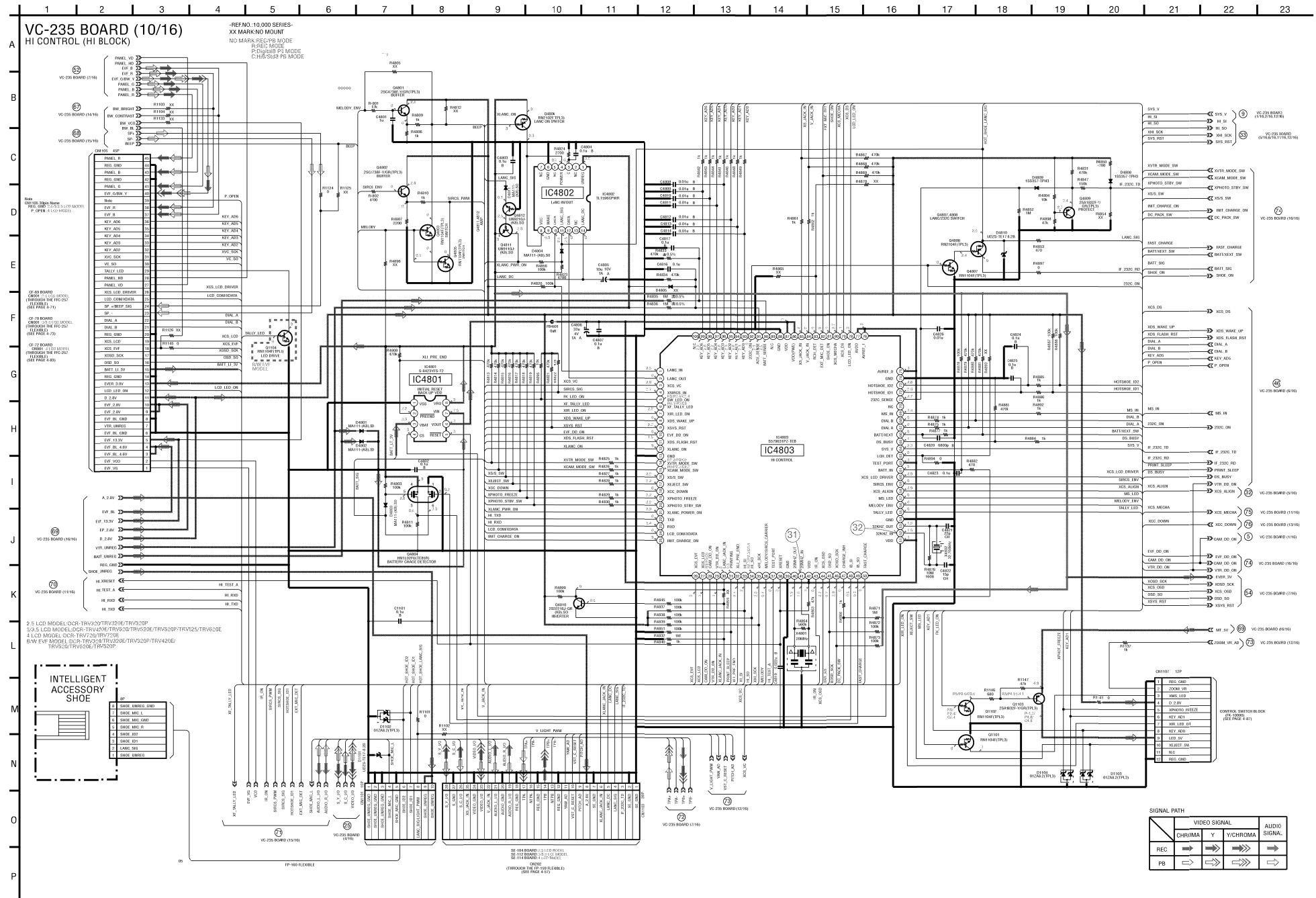
VC-235 (A/D CONVERTER, REC/PB AMP) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.



VC-235 (Hi8/Std8 PB AMP) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.

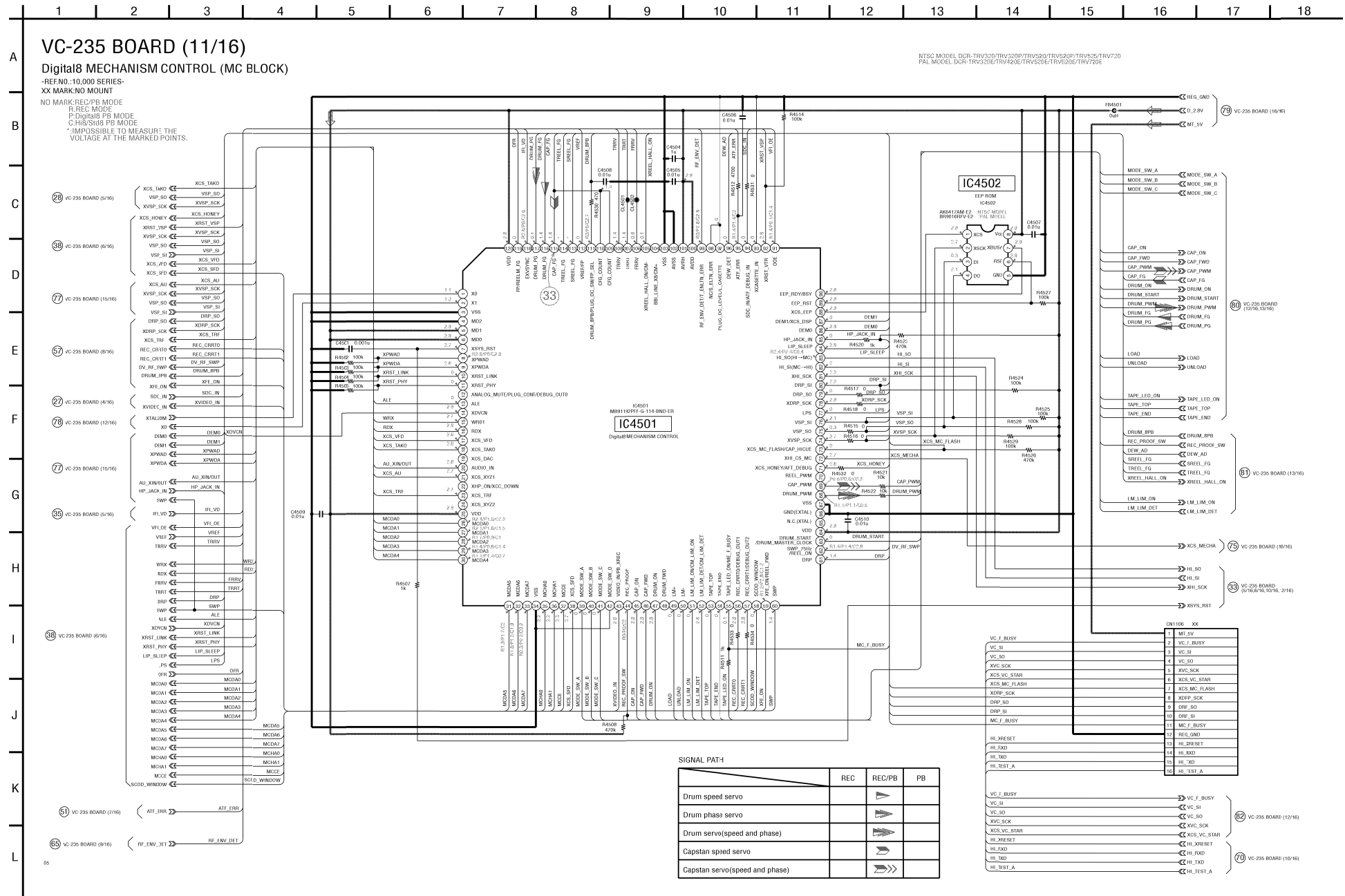


VC-235 (HI CONTROL) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.



DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

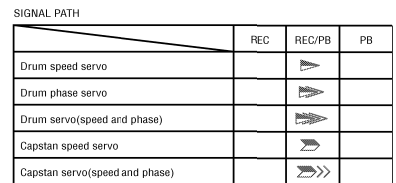
VC-235 (Digital8 MECHANISM CONTROL) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.



A CAMERA CONTROL
Hi8/Std8 MECHANISM CONTROL
(VC BLOCK)

NO MARK:REC/PB MCDE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE

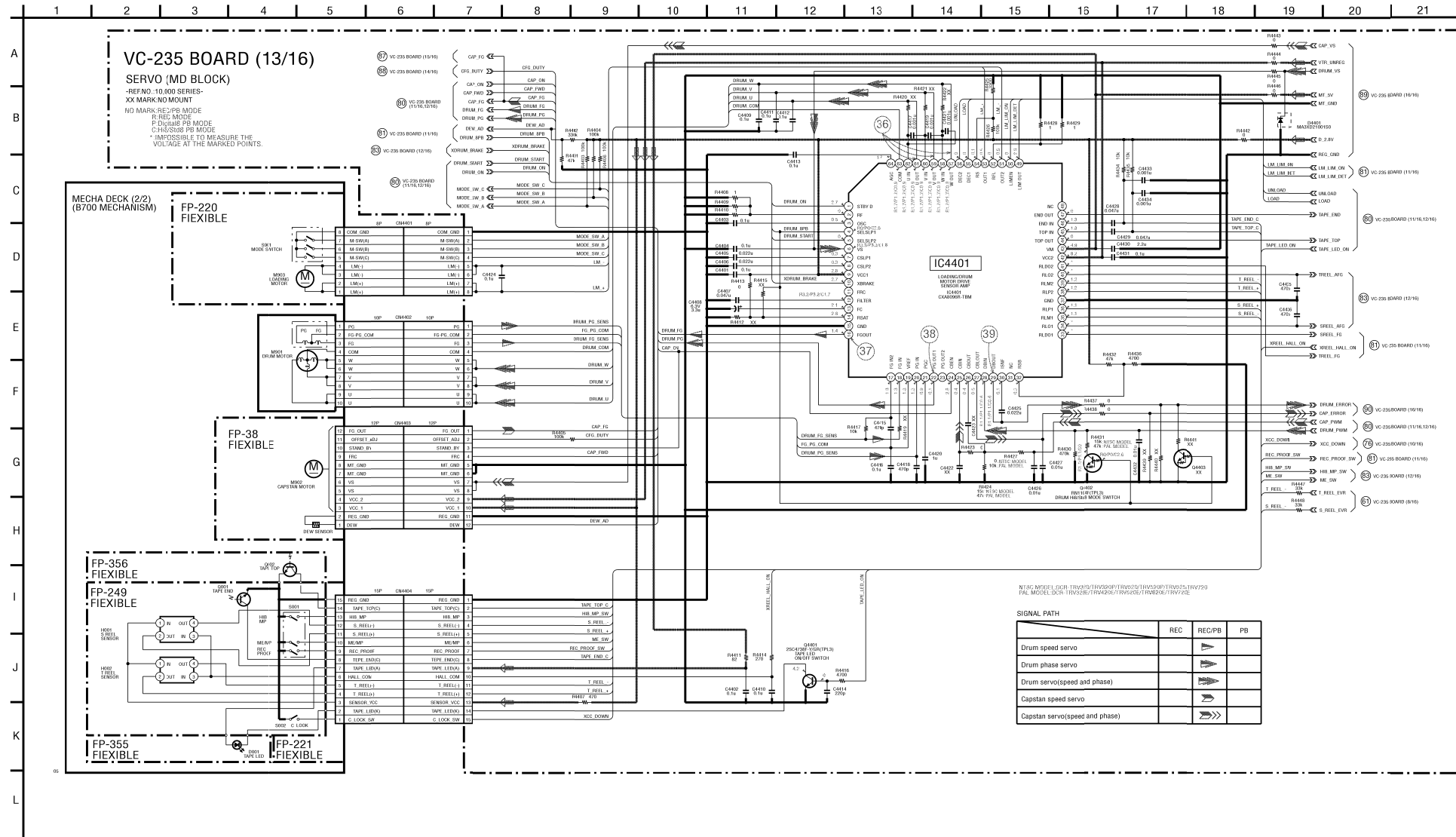
A vertical scale with labels C, D, E, F, G, H, I, J, K, L, and M. Each label is positioned to the left of a horizontal tick mark on a vertical line.



MODEL	DCR-TRV320/TVR320P/ TVS20/TVS20P	DCR-TRV320E-E.HK.AUS/CN/ TRV420E-CN/ TRV520E-E.HK.ALS.CN.JE	DCR-TRV320E-AEP.KU.EE.NE.RU/ TRV420E-AEP/ TRV520E-AEP	DCR-TRV620E/ TRV720E	DCR-TRV525/ TRV720
REF.NO.					
R1127	56k	10k	22k	47k	100k
R1128	68k	100k	100k	100k	47k
R1131	68k	100k	100k	100k	68k
R1132	56k	47k	47k	47k	56k

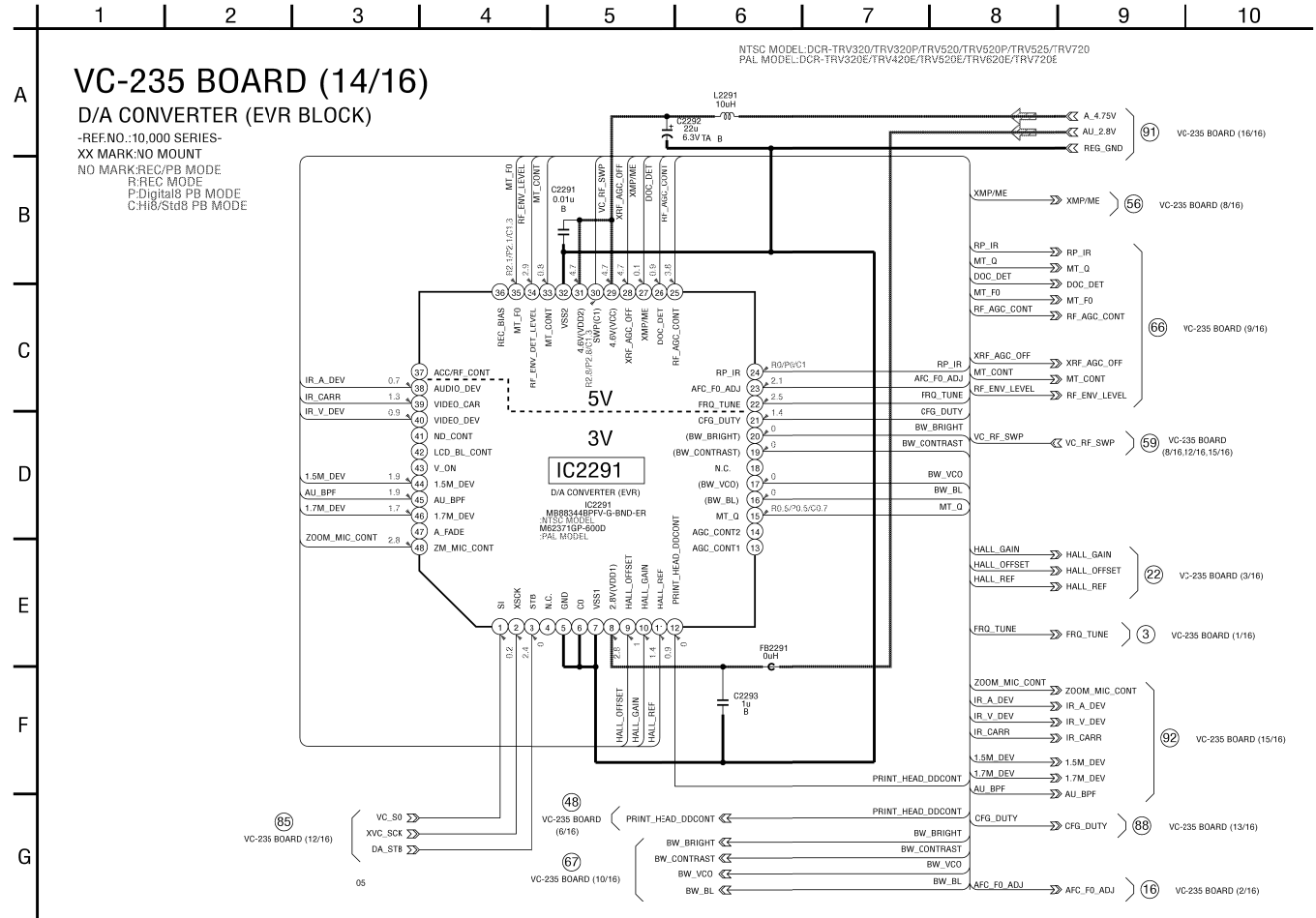
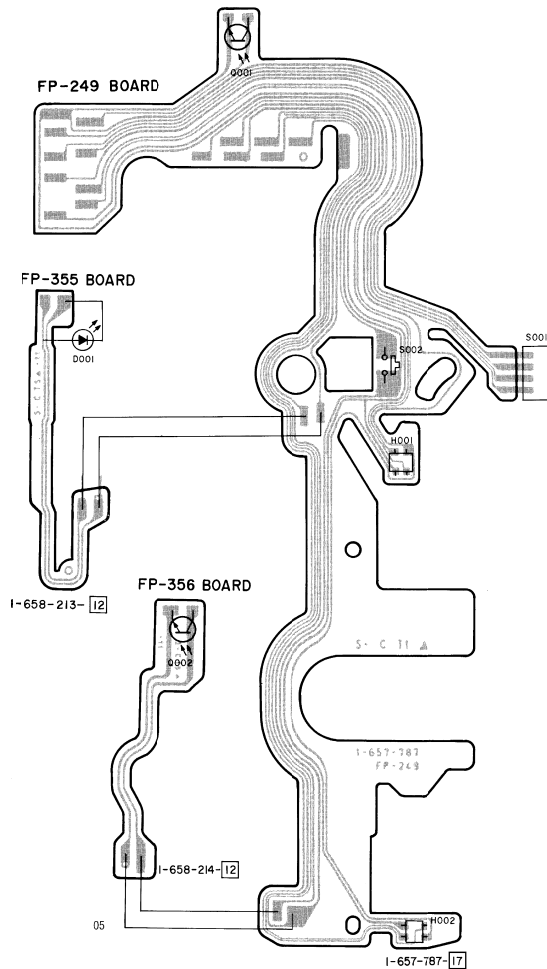
DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

FP-38, FP-220, FP-221, FP-249, FP-355, FP-356 (MECHA DECK), VC-235 (SERVO) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-121 for waveforms.



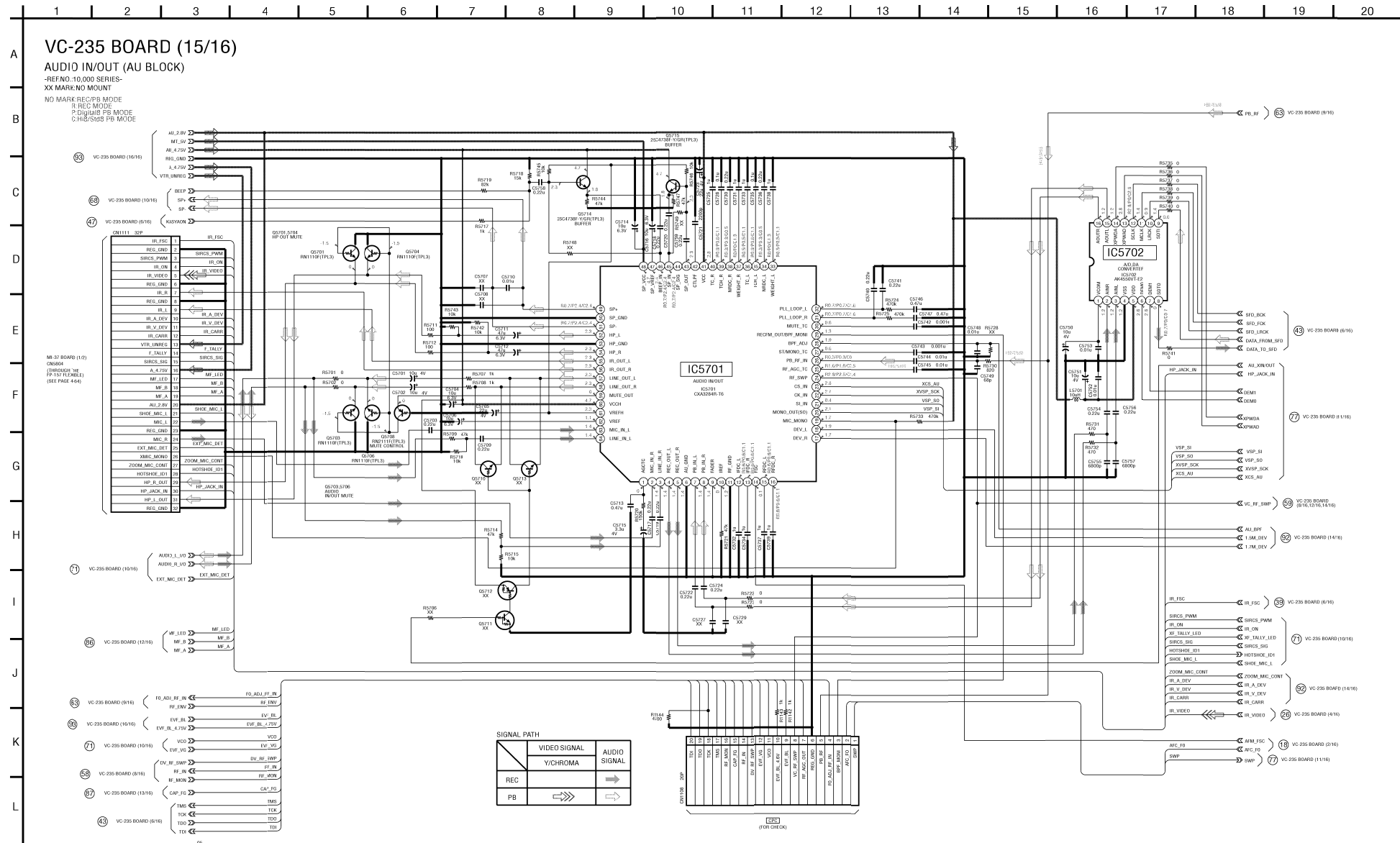
FP-249, FP-355, FP-356 (MECHA DECK) PRINTED WIRING BOARDS AND VC-235 (D/A CONVERTER) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.

– Ref. No.: FP-249, FP-355, FP-356 flexible board; 10,000 series –

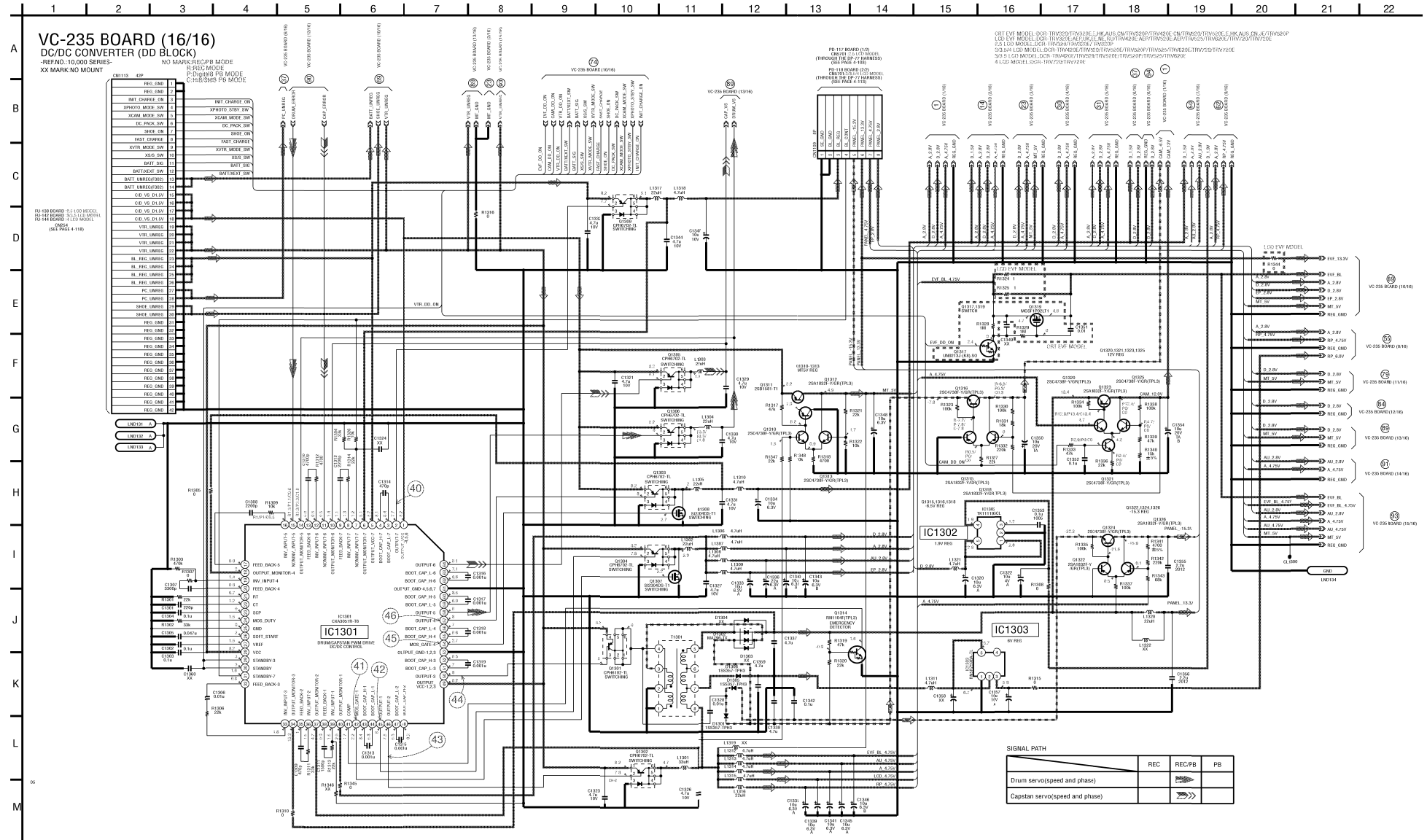


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

VC-235 (AUDIO IN/OUT) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.

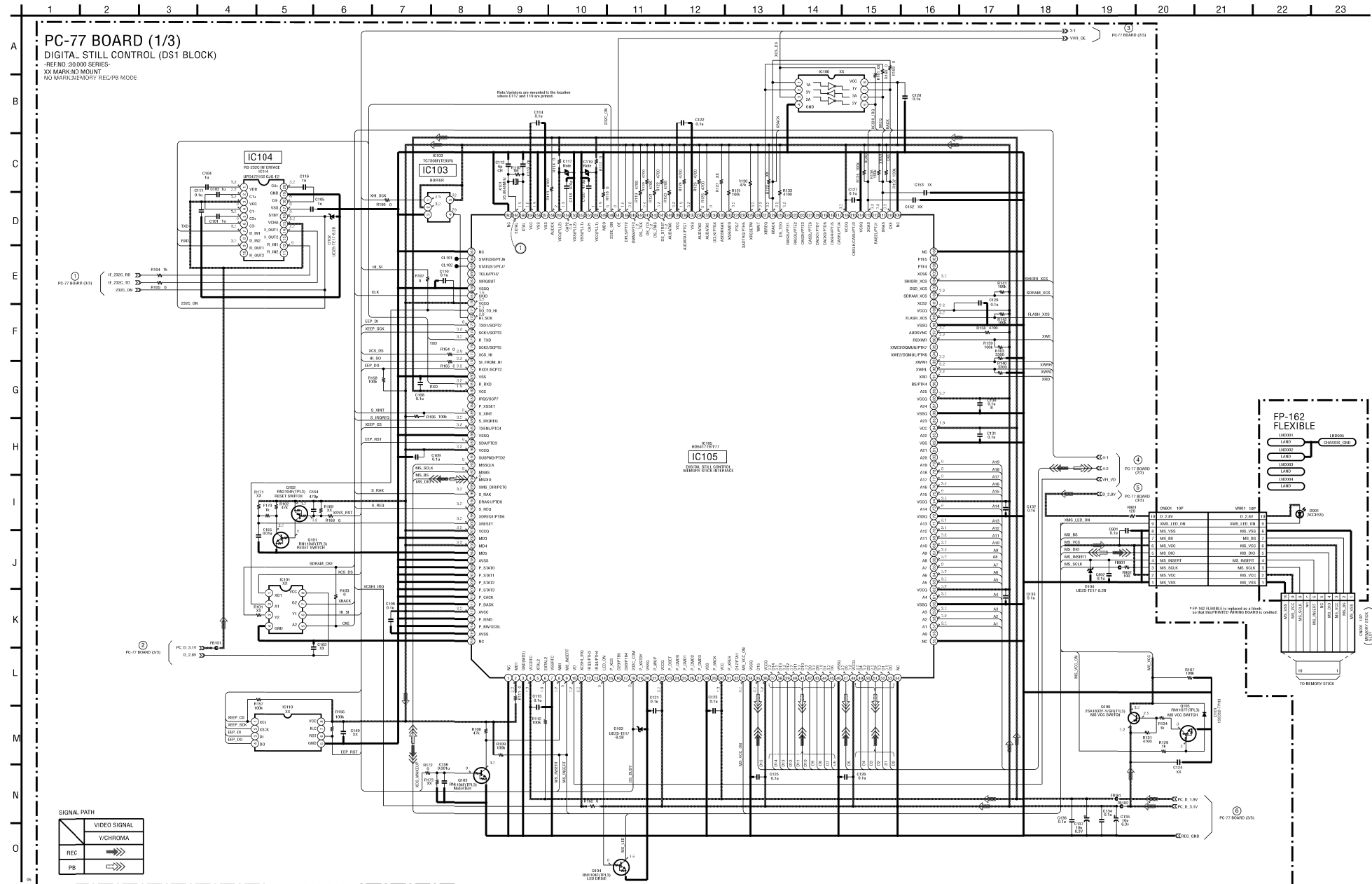


VC-235 (DC/DC CONVERTER) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-121 for waveforms.



DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

PC-77 (DIGITAL STILL CONTROL), FP-162 (MEMORY STICK BLOCK) SCHEMATIC DIAGRAM • See page 4-53 for PC-77 printed wiring board. • See page 4-121 for waveform.

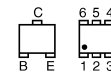




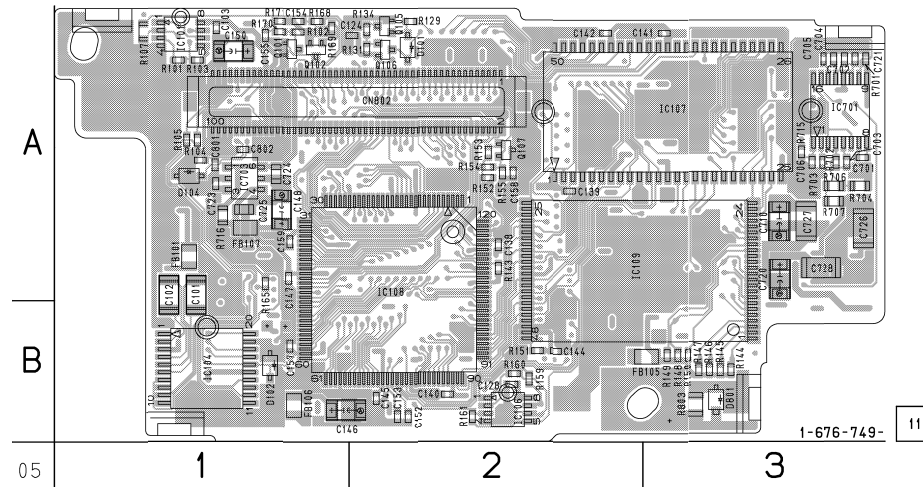
PC-77 (DIGITAL STILL CONTROL, STILL PICTURE SIGNAL PROCESS) PRINTED WIRING BOARD

– Ref. No.: PC-77 board; 30,000 series –

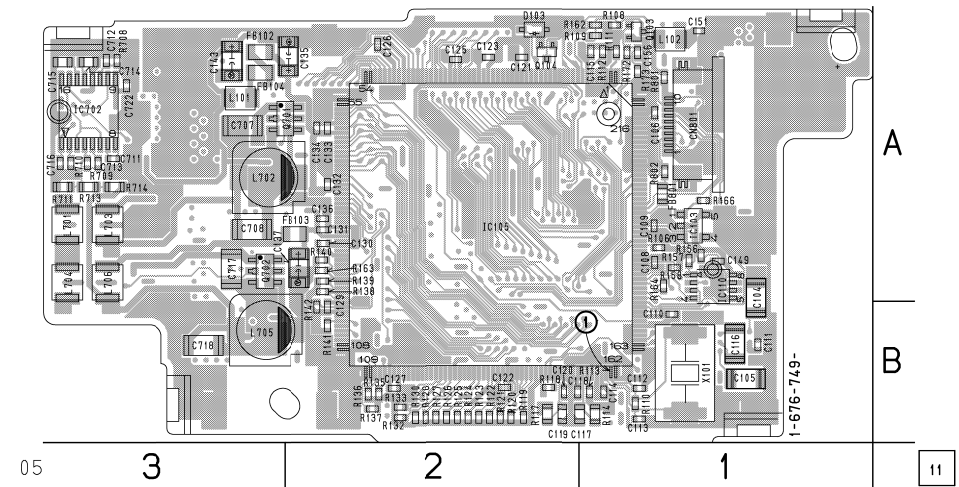
- For Printed Wiring Board.
- PC-77 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-125 for printed parts location.
- Chip transistor



PC-77 BOARD (SIDE A)



PC-77 BOARD (SIDE B)

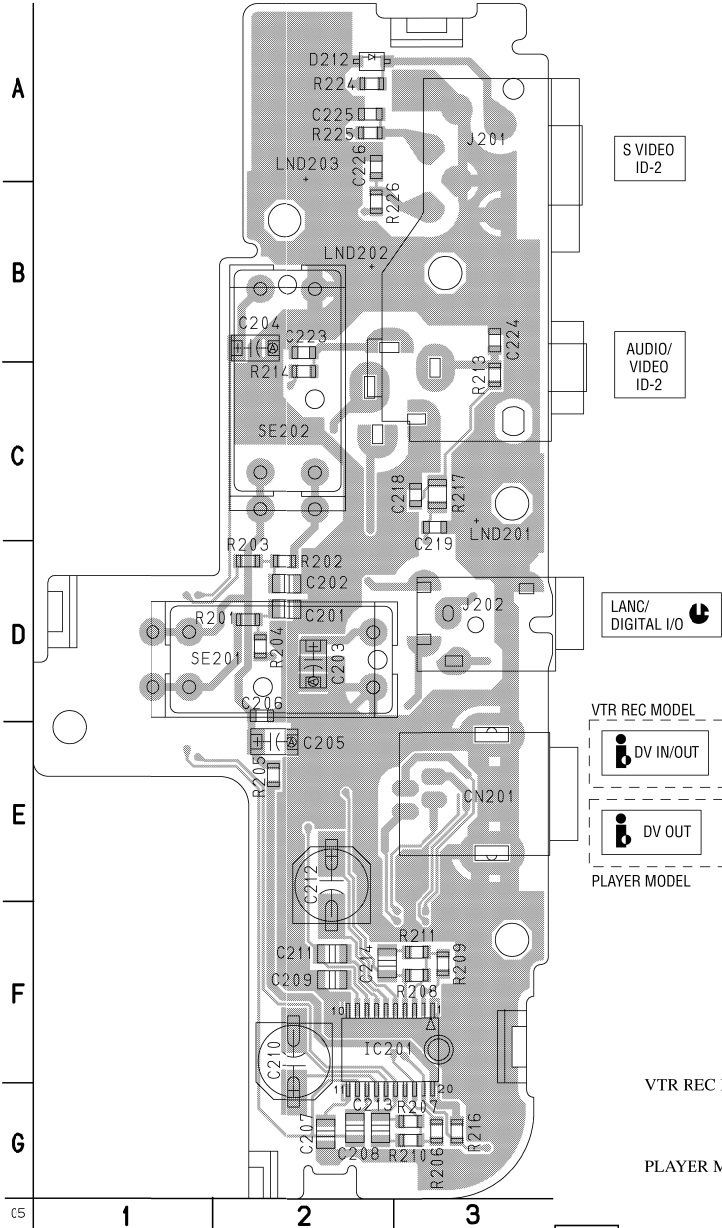


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

SE-104/112/114 (STEADYSHOT, AV IN/OUT) PRINTED WIRING BOARD

– Ref. No.: SE-104/112/114 board; 20,000 series –

SE-104/112/114 BOARD (SIDE A)

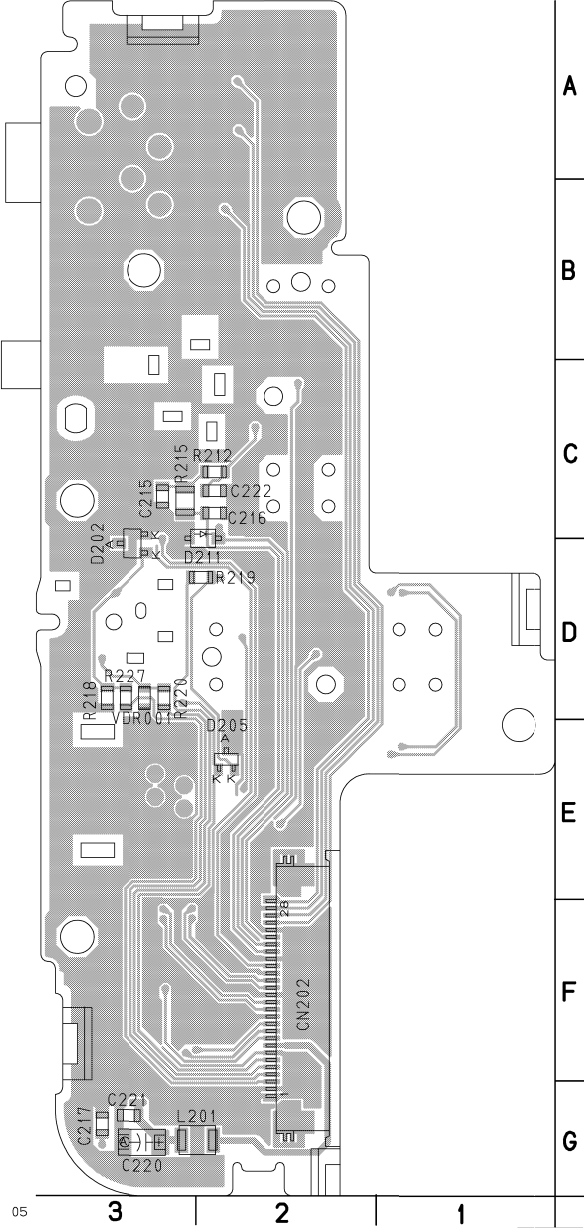


SE-104: 1-676-772-	12 (22)
SE-112: 1-676-758-	11 (21)
SE-114: 1-676-765-	11

STEADYSHOT, AV IN/OUT
SE-104/112/114

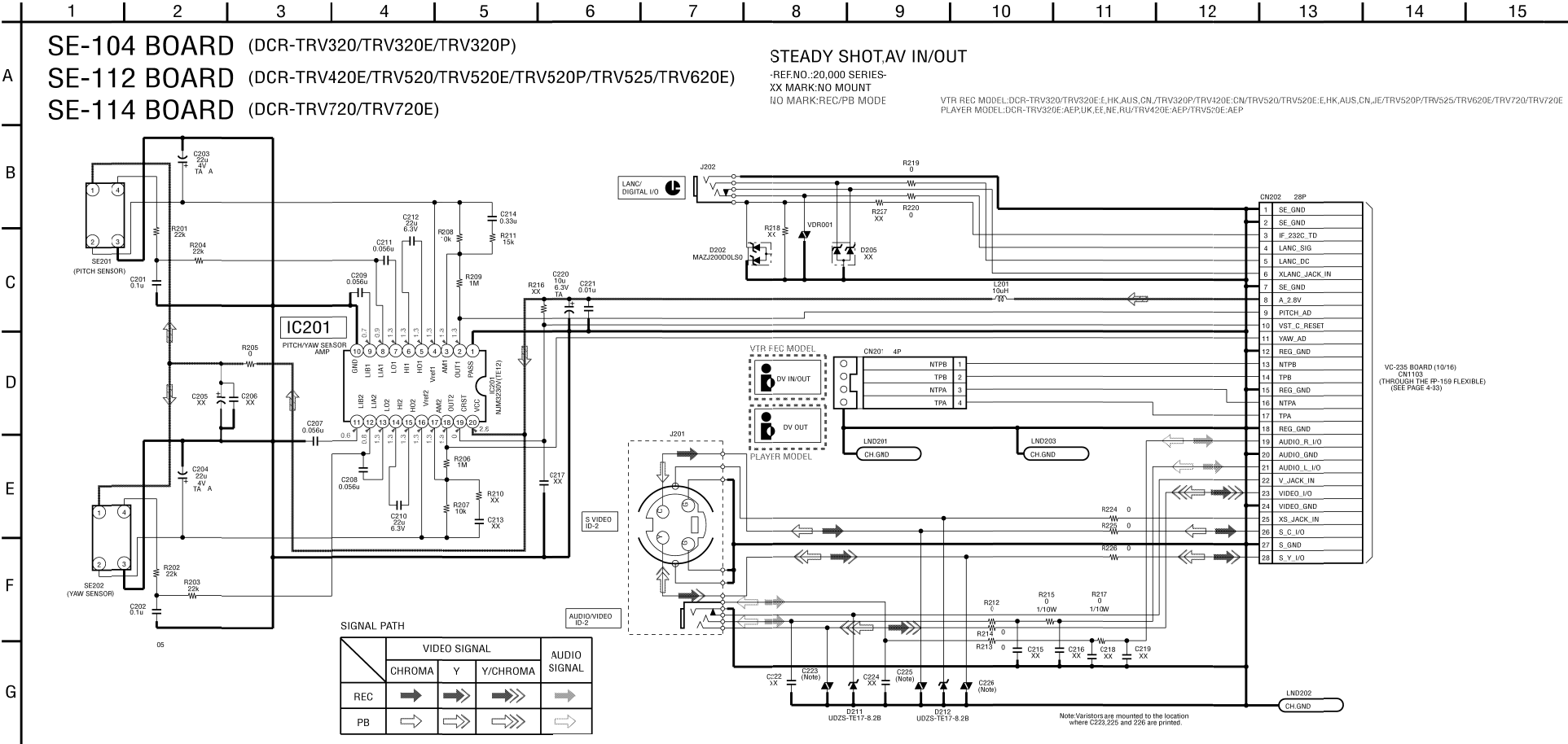
- For Printed Wiring Board.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.

SE-104/112/114 BOARD (SIDE B)



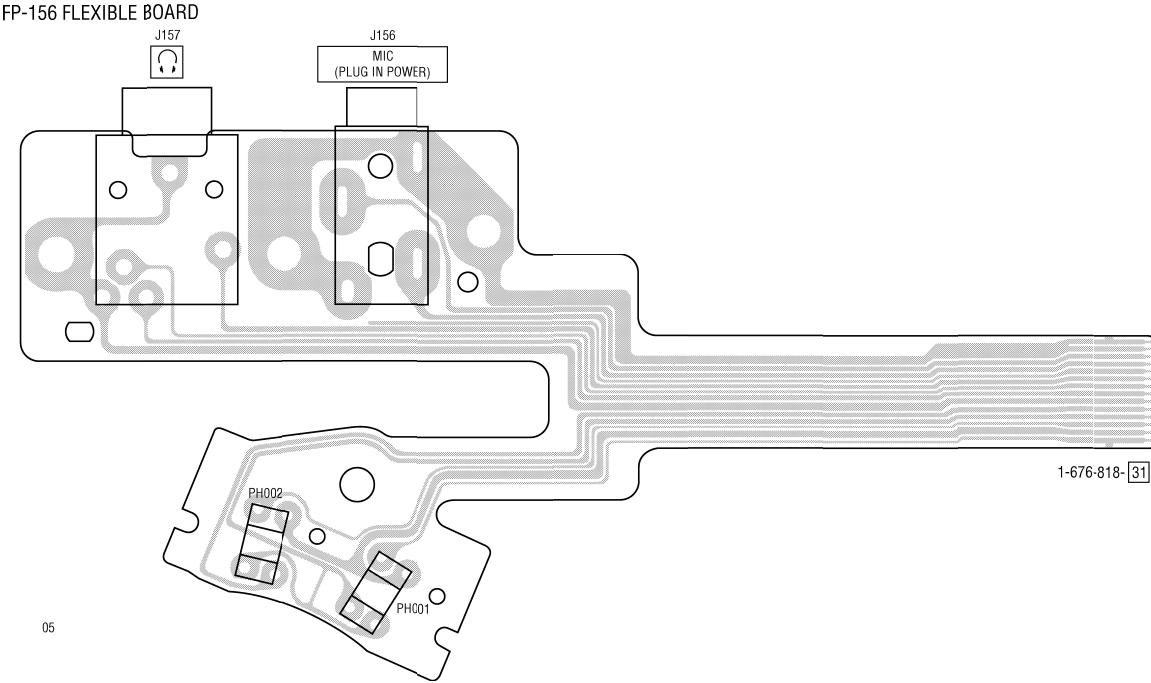
SE-104: 1-676-772-	12 (22)
SE-112: 1-676-758-	11 (21)
SE-114: 1-676-765-	11

SE-104/112/114 (STEADYSHOT, AV IN/OUT) SCHEMATIC DIAGRAM



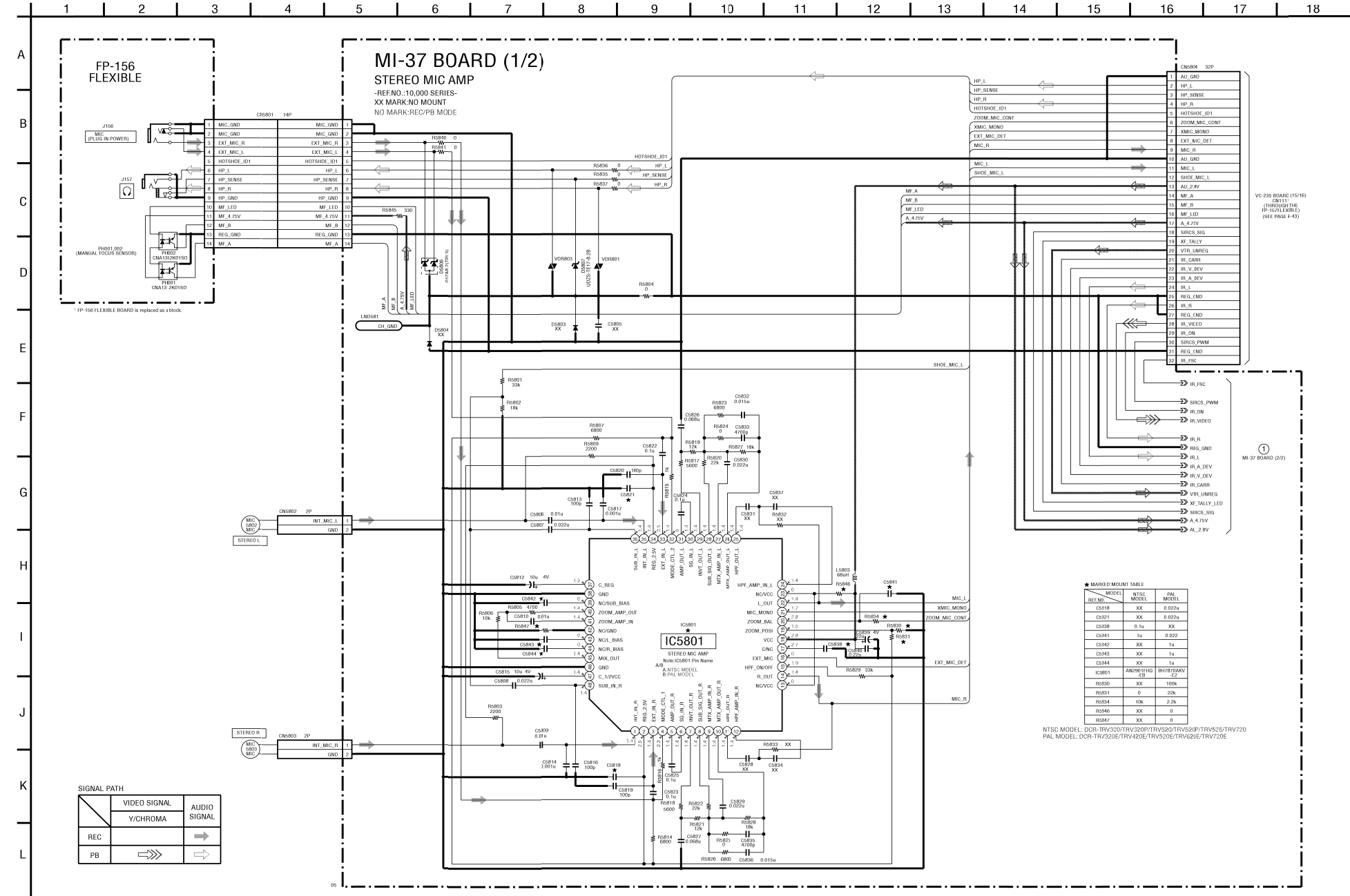
-

[illegible]

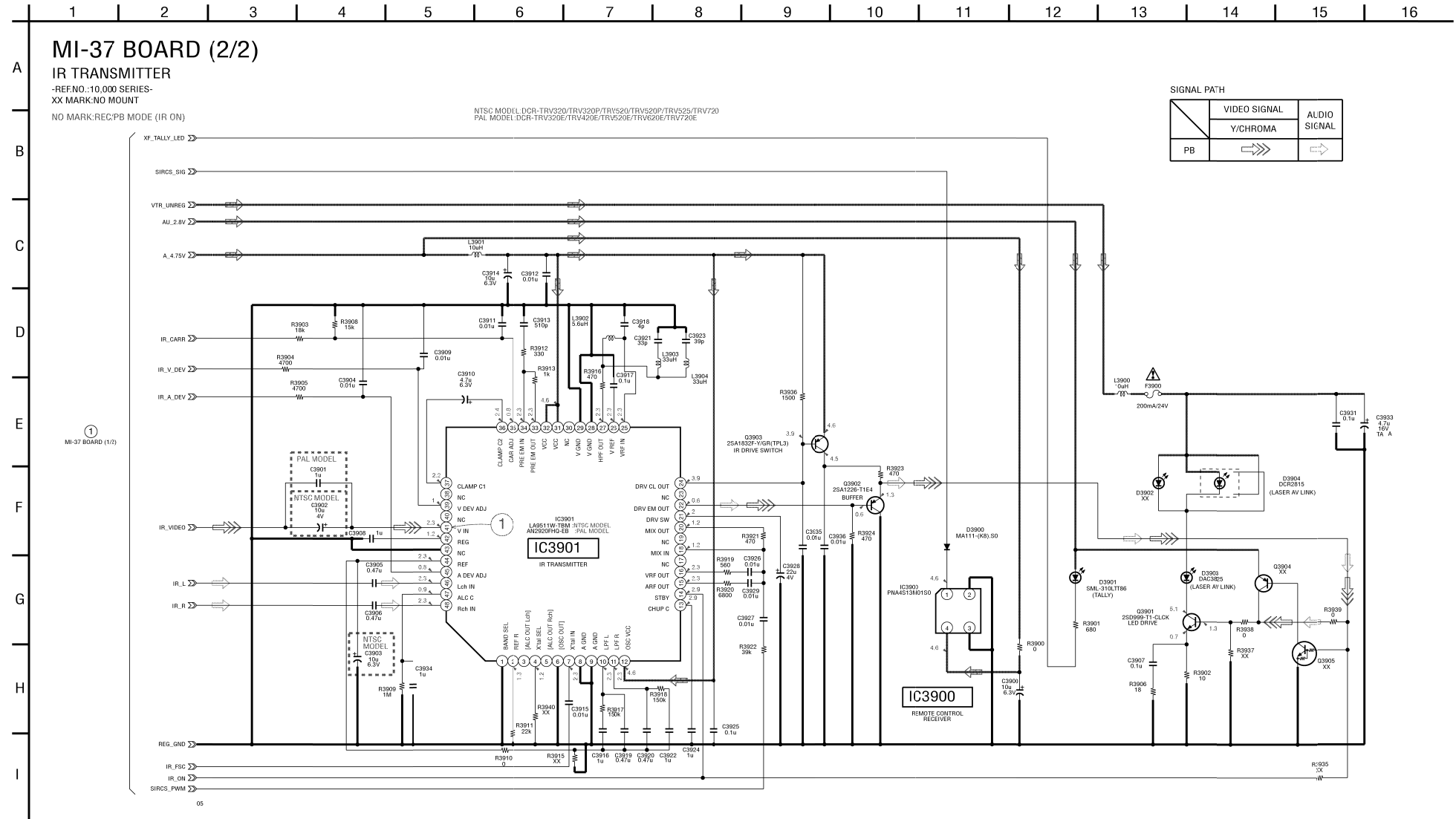


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

FP-156 (MIC/HP JACK, MF SENSOR), MI-37 (STEREO MIC AMP) SCHEMATIC DIAGRAM • See page 4-59 for FP-156 and MI-37 printed wiring boards.



MI-37 (IR TRANSMITTER) SCHEMATIC DIAGRAM • See page 4-59 for MI-37 printed wiring board. • See page 4-122 for waveform.



The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

CF-69 (USER CONTROL) PRINTED WIRING BOARD

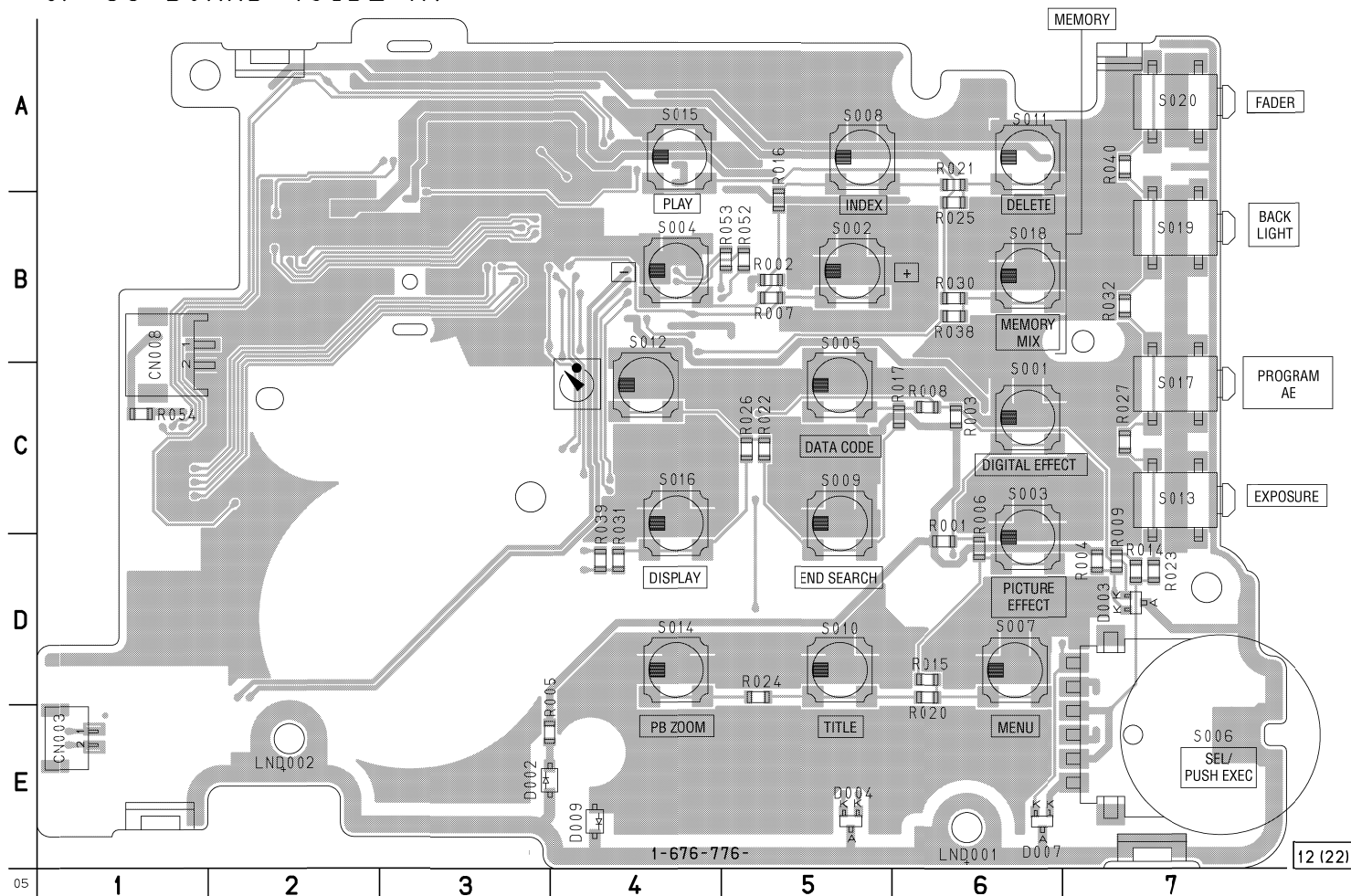
– Ref. No.: CF-69 board; 20,000 series –
– DCR-TRV320/TRV320E/TRV320P –

• **For Printed Wiring Board.**

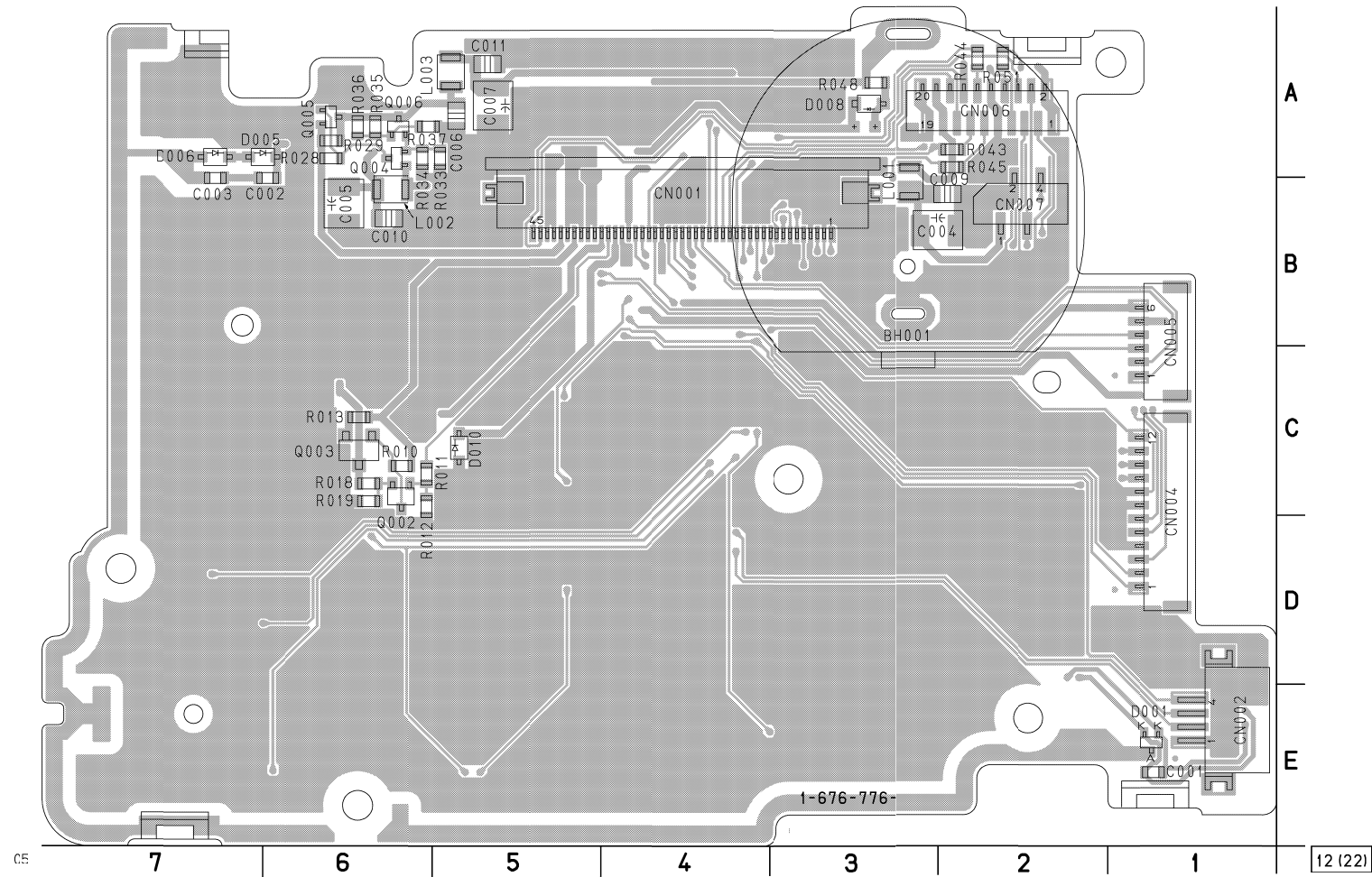
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.
- Chip transistor



CF-69 BOARD (SIDE A)

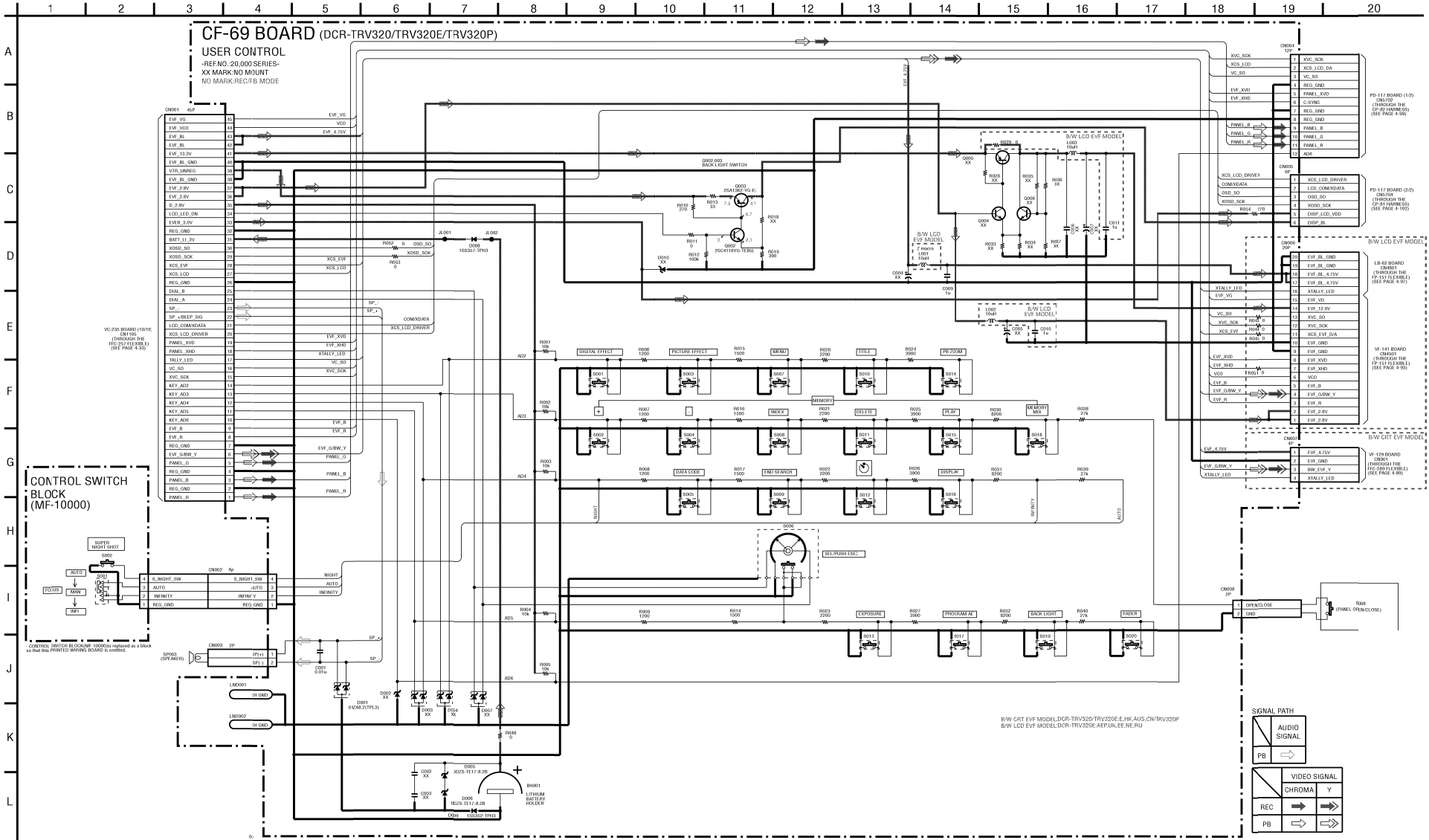


CF-69 BOARD (SIDE B)

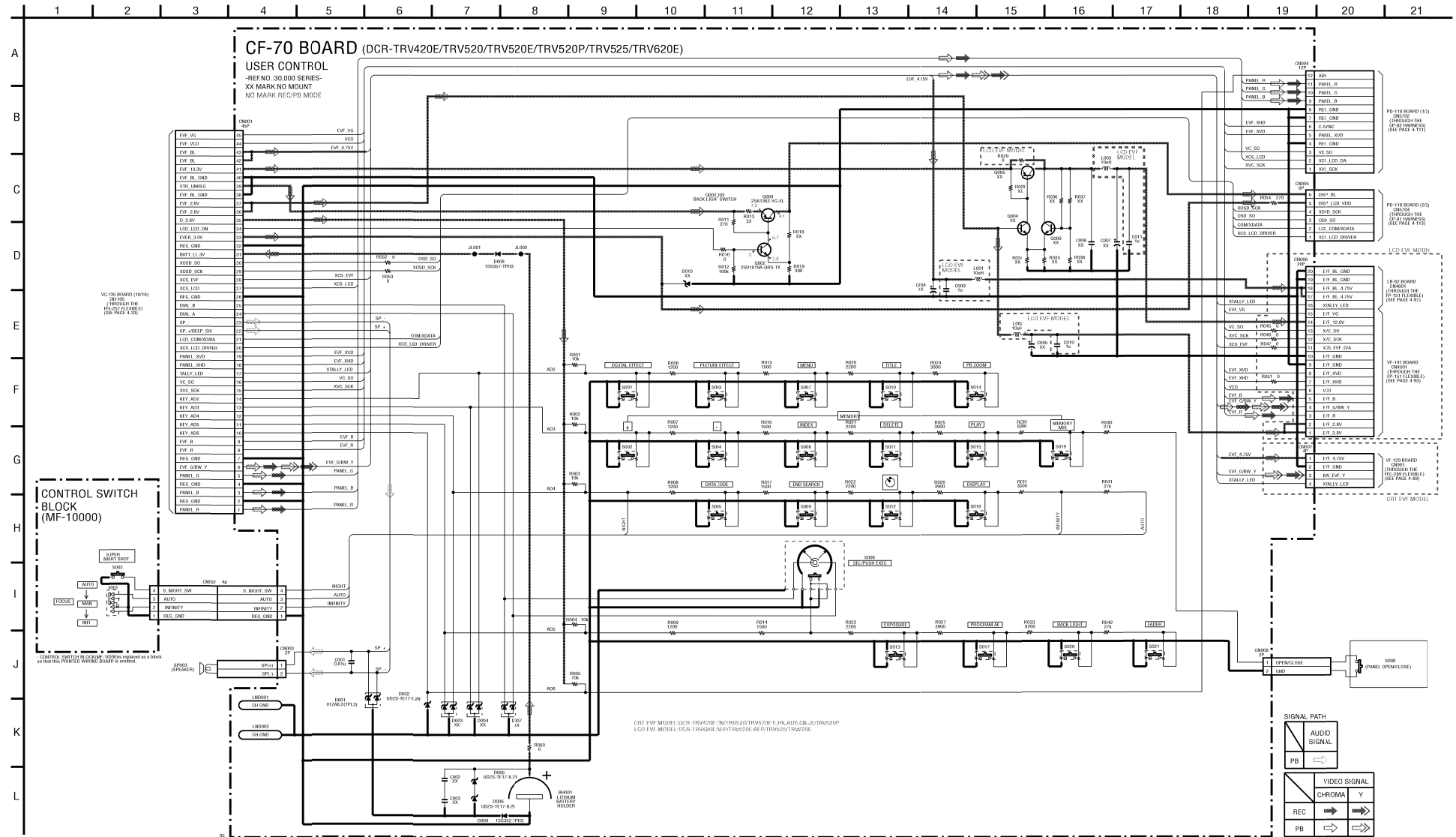


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

MF-10000 (CONTROL SWITCH BLOCK), CF-69 (USER CONTROL) SCHEMATIC DIAGRAM • See page 4-67 for CF-69 printed wiring board.



MF-10000 (CONTROL SWITCH BLOCK), CF-70 (USER CONTROL) SCHEMATIC DIAGRAM • See page 4-75 for CF-70 printed wiring board.



CF-70 (USER CONTROL) PRINTED WIRING BOARD

– Ref. No.: CF-70 board; 30,000 series –

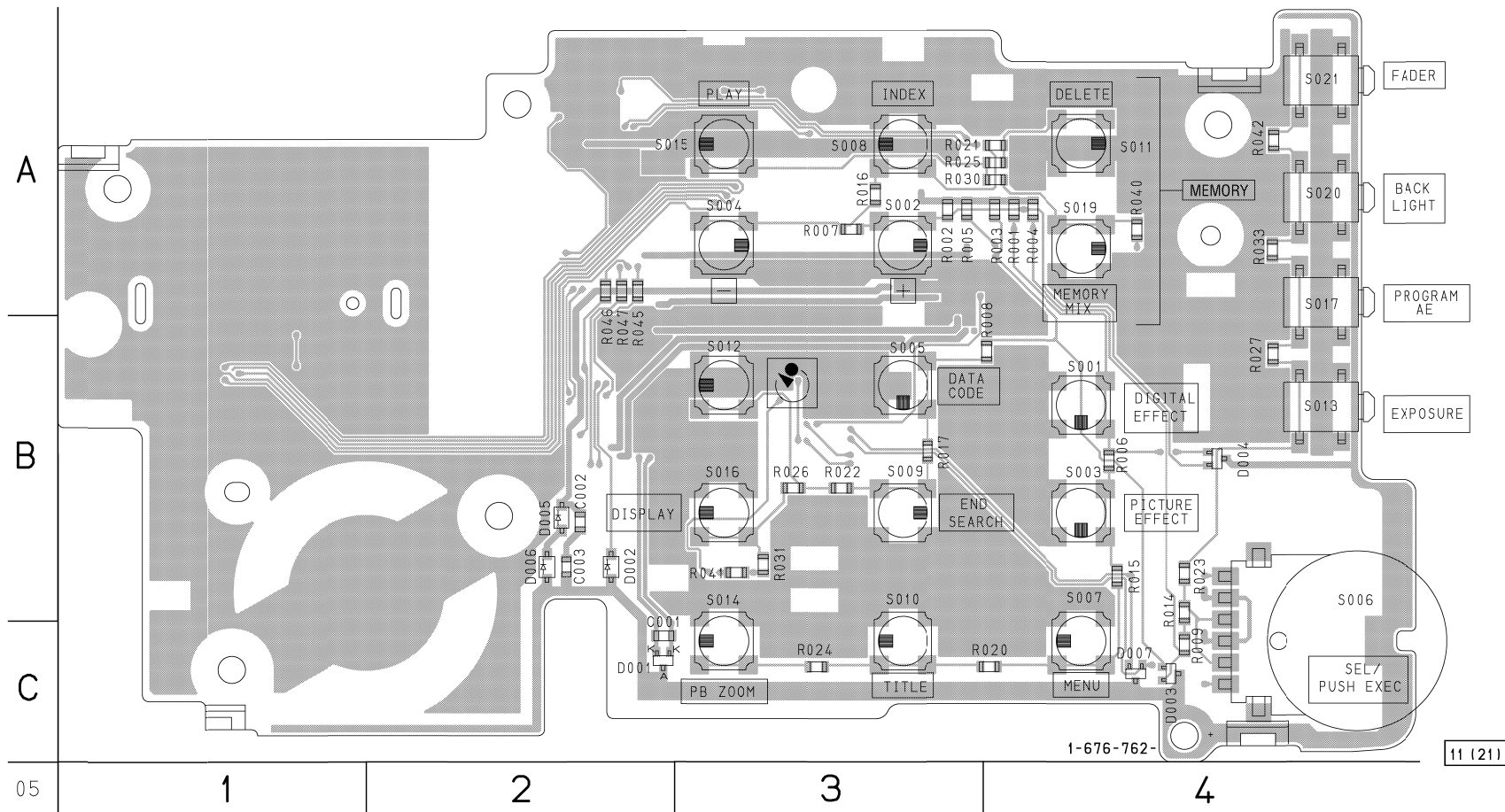
– DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E –

• For Printed Wiring Board.

- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.
- Chip transistor



CF-70 BOARD (SIDE A)



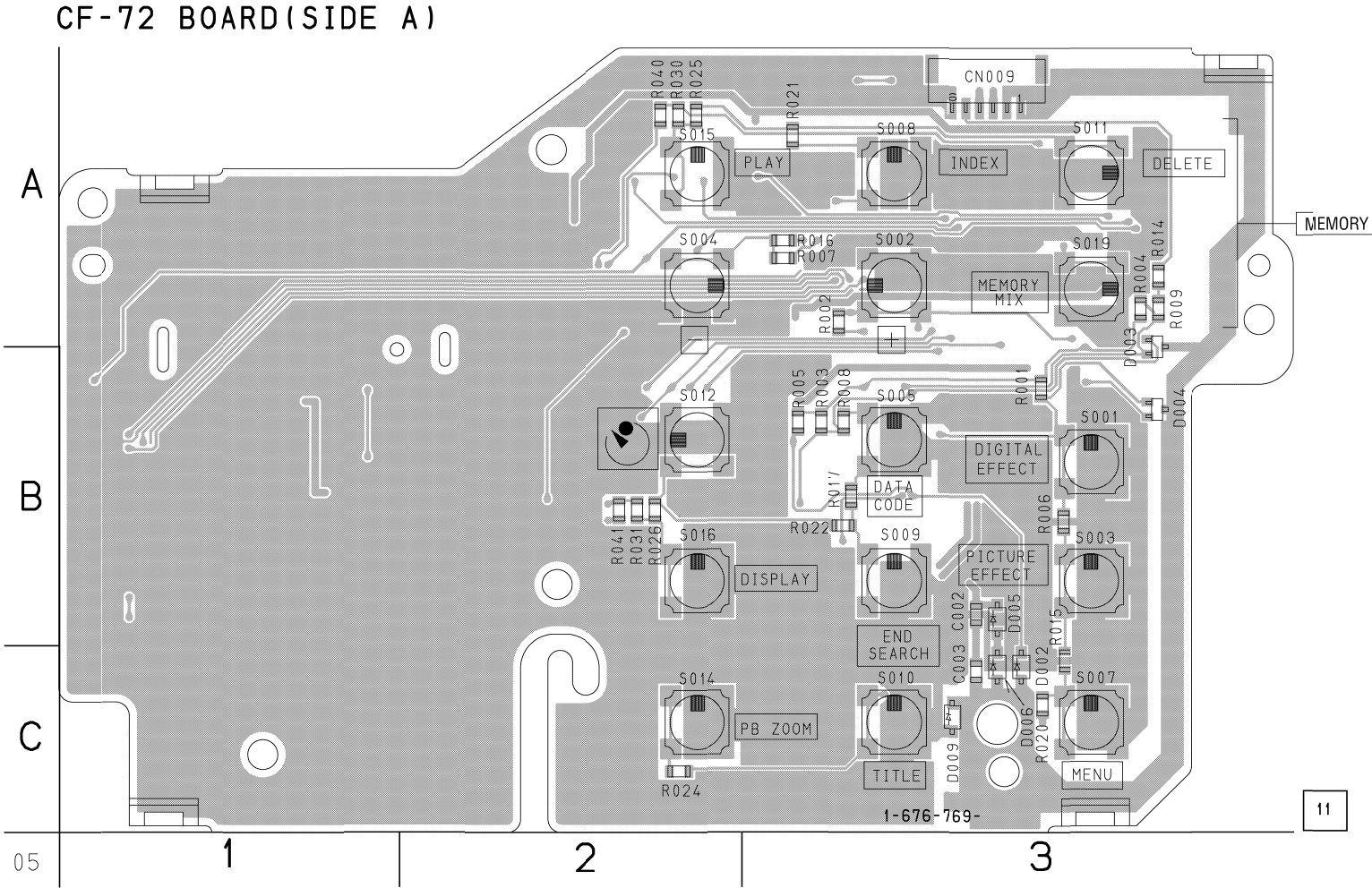
C

11 (21)

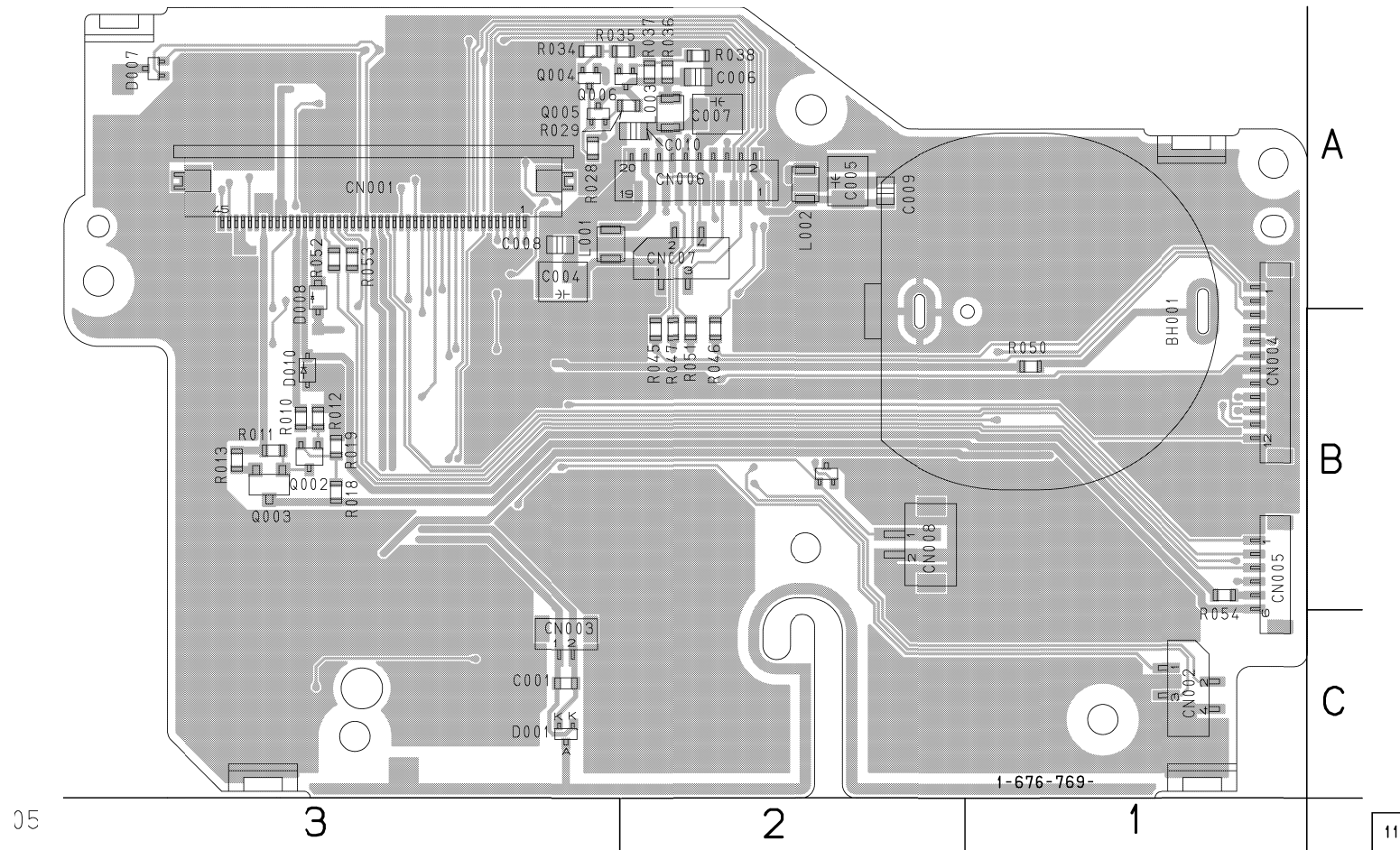
CF-72 (USER CONTROL) PRINTED WIRING BOARD

– Ref. No.: CF-72 board; 40,000 series –
– DCR-TRV720/TRV720E –

- For Printed Wiring Board.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-127 for printed parts location.
- Chip transistor

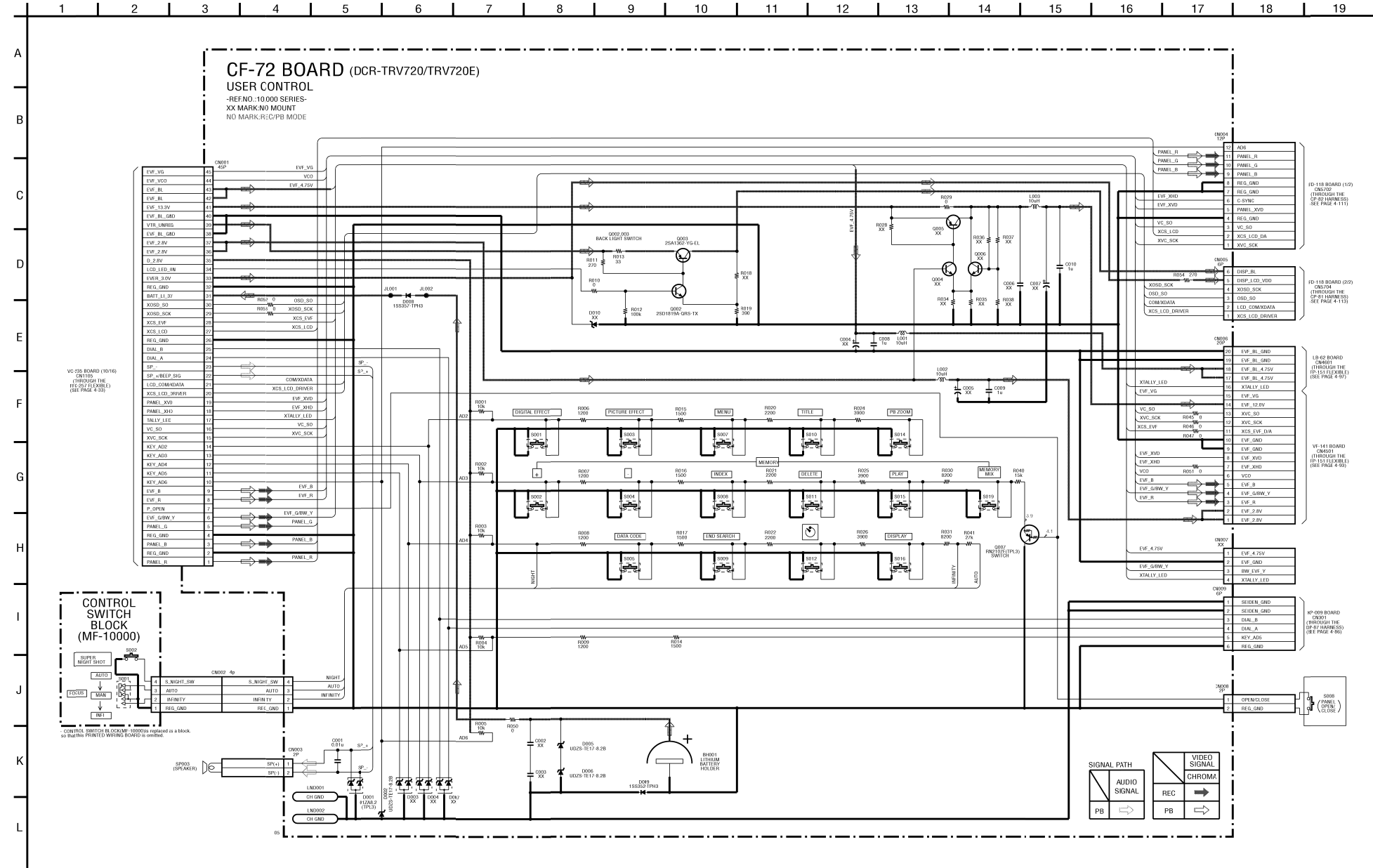


CF-72 BOARD(SIDE B)



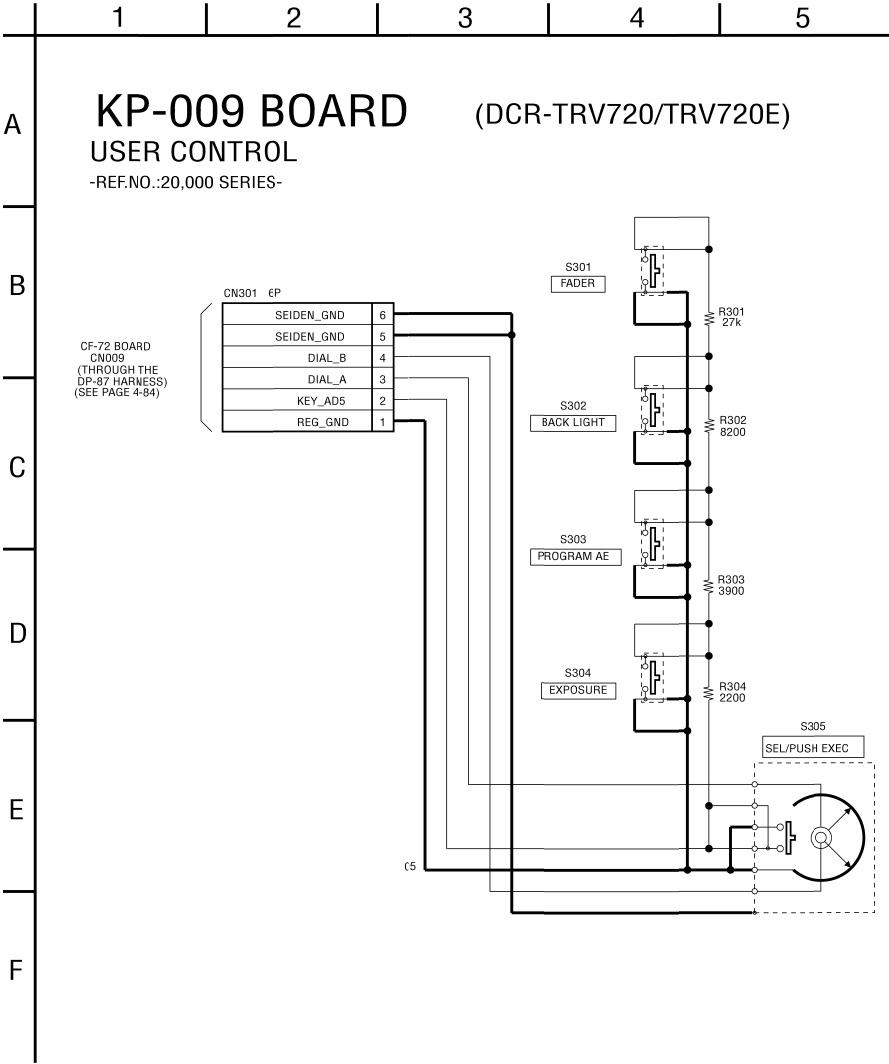
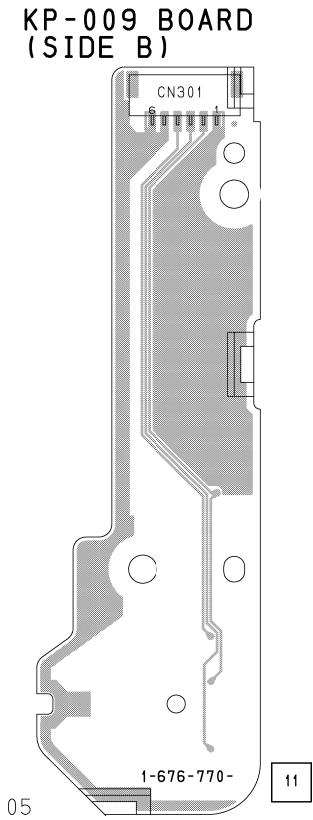
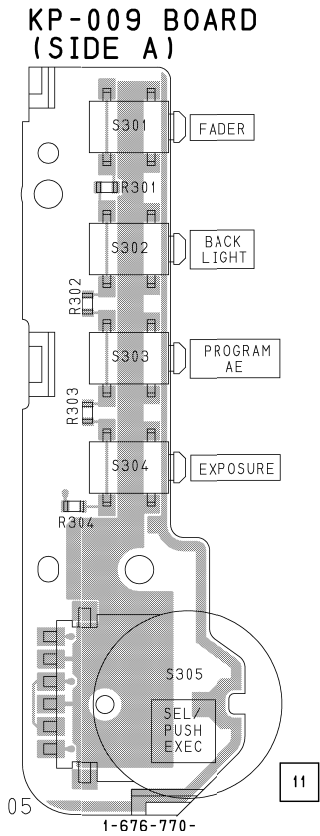
DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

MF-10000 (CONTROL SWITCH BLOCK), CF-72 (USER CONTROL) SCHEMATIC DIAGRAM • See page 4-79 for CF-72 printed wiring board.

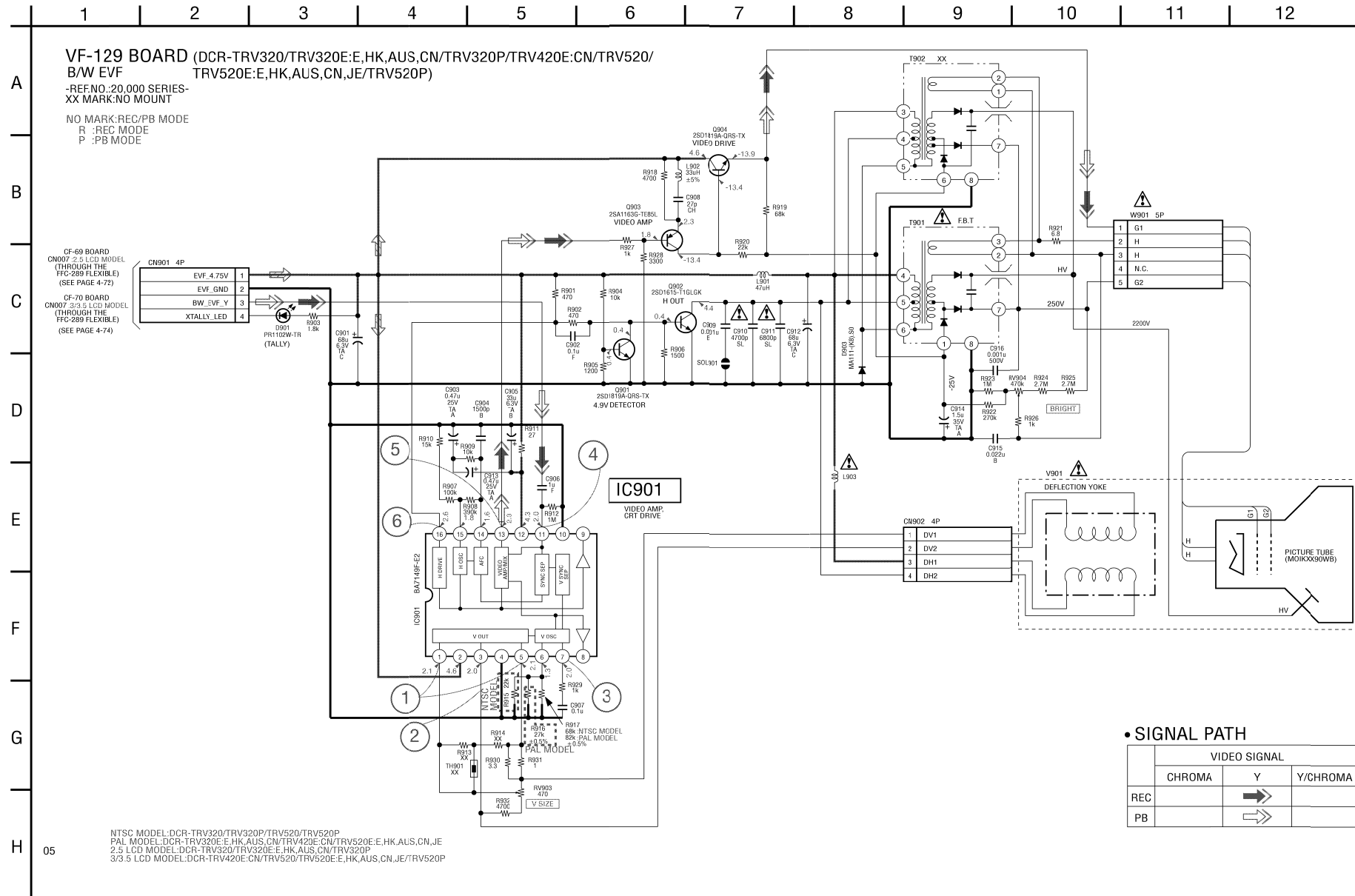



KP-009 (USER CONTROL) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM


- For Printed Wiring Board.
- There are few cases that the part isn't mounted in this model is printed on this diagram.



VF-129 (B/W EVF) SCHEMATIC DIAGRAM • See page 4-122 for waveforms.



The components identified by mark  or dotted line with mark are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

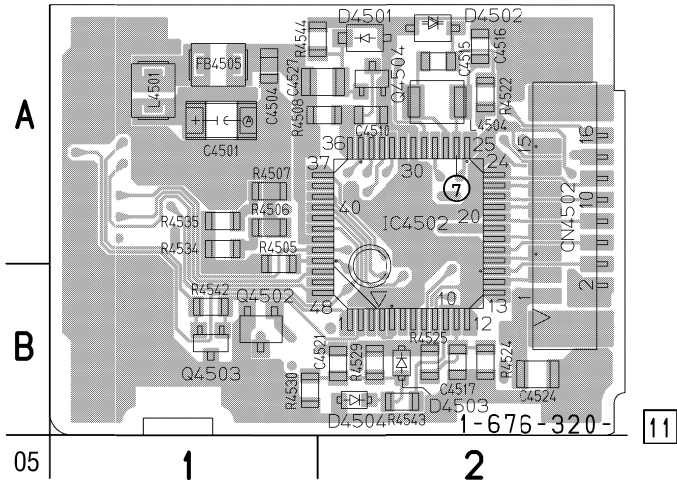
VF-141 (RGB DRIVER, TIMING GENERATOR) PRINTED WIRING BOARD

– Ref. No.: VF-141 board; 20,000 series –

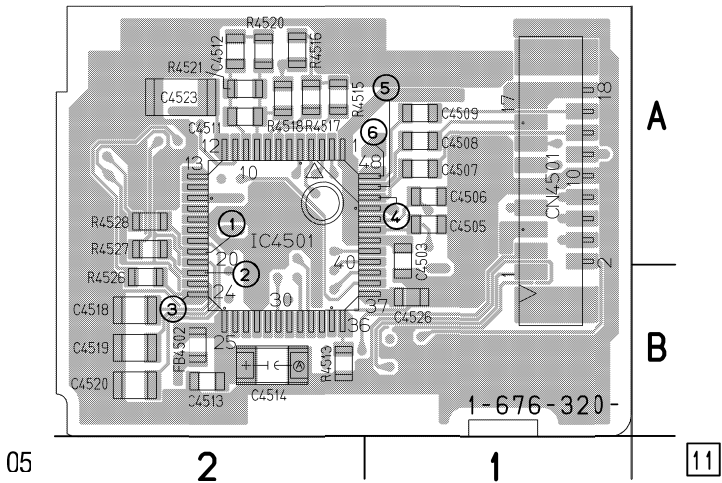
- For Printed Wiring Board.
- VF-141 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-127 for printed parts location.
- Chip transistor

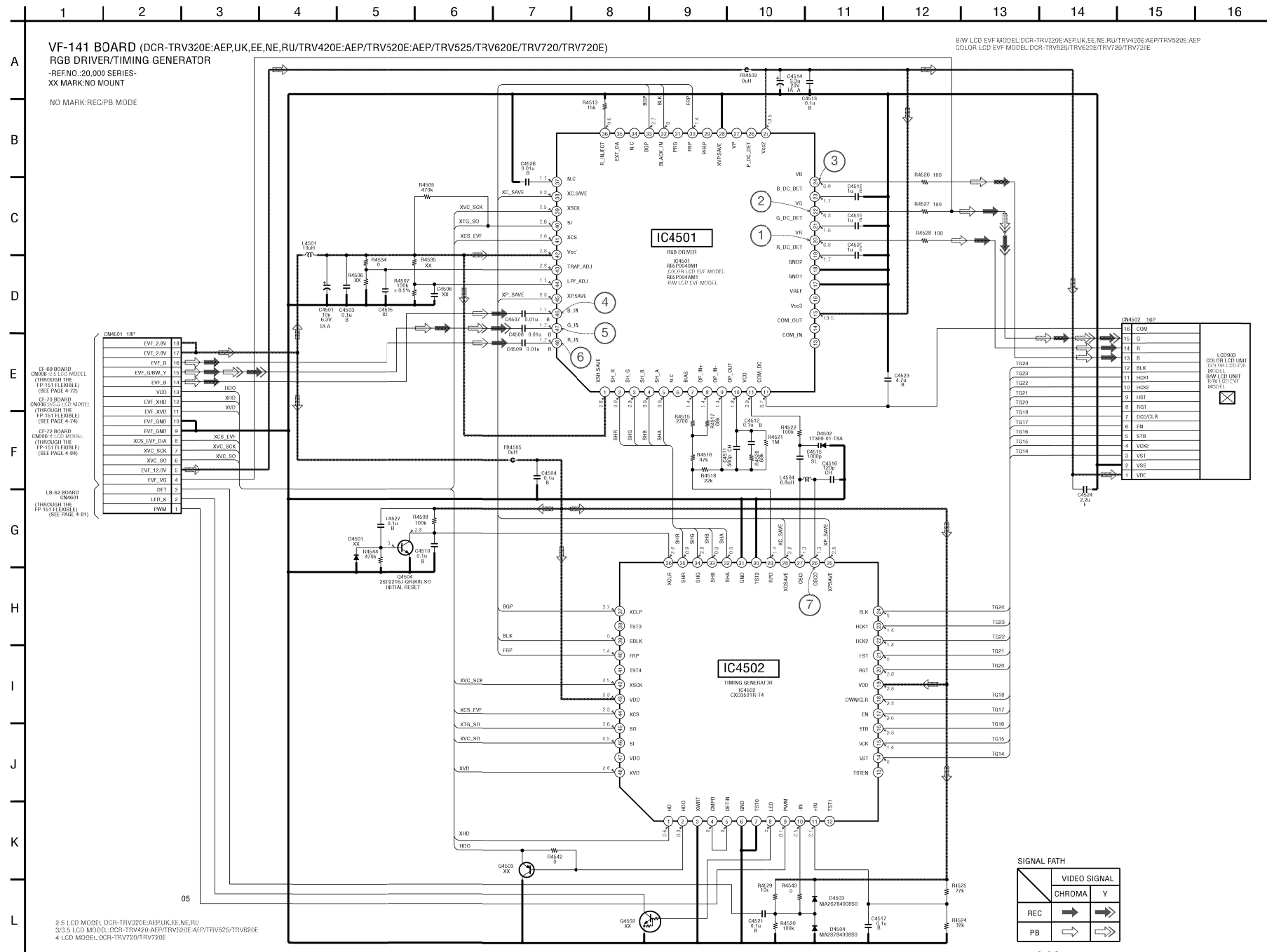


VF-141 BOARD
(SIDE A)



VF-141 BOARD
(SIDE B)

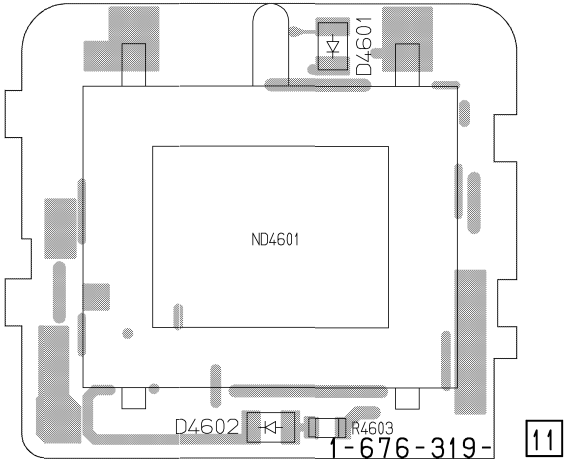




LB-62 (BACK LIGHT) PRINTED WIRING BOARD
– Ref. No.: LB-62 board; 20,000 series –

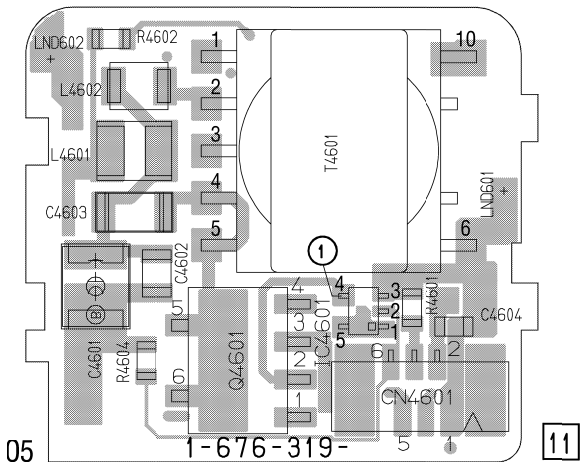
- **For Printed Wiring Board.**
- LB-62 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.

**LB-62 BOARD
(SIDE A)**



05

**LB-62 BOARD
(SIDE B)**



05

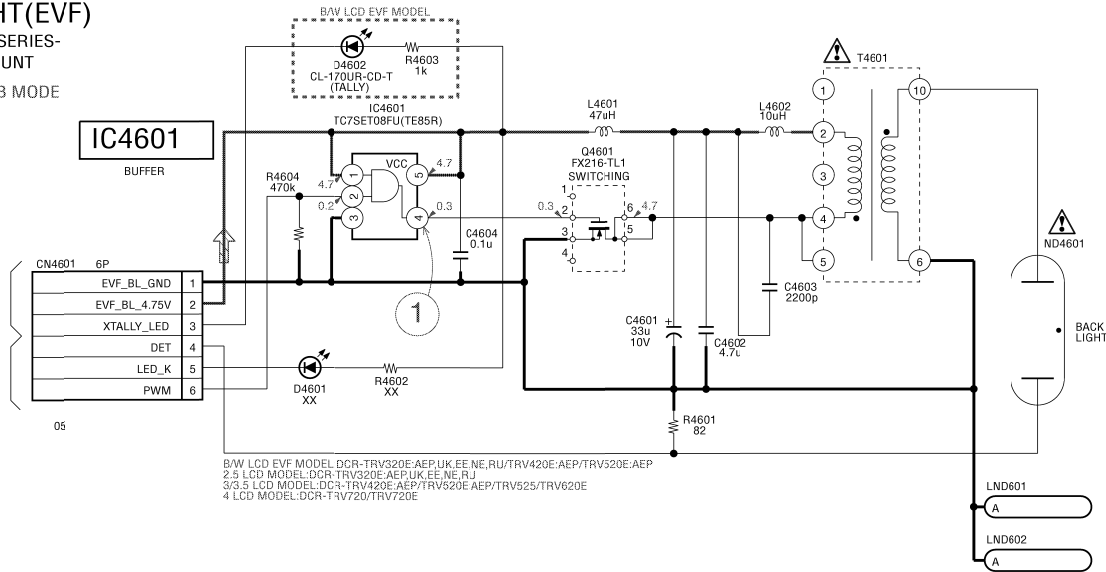
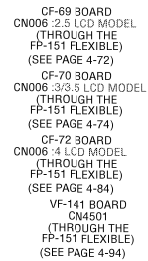
LB-62 (BACK LIGHT) SCHEMATIC DIAGRAM • See page 4-123 for waveform.



LB-62 BOARD (DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP/TRV525/TRV620E/TRV720/TRV720E)


A	BACK LIGHT(EVF)
---	-----------------

-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT

NO MARK:REC/PB MODE



The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

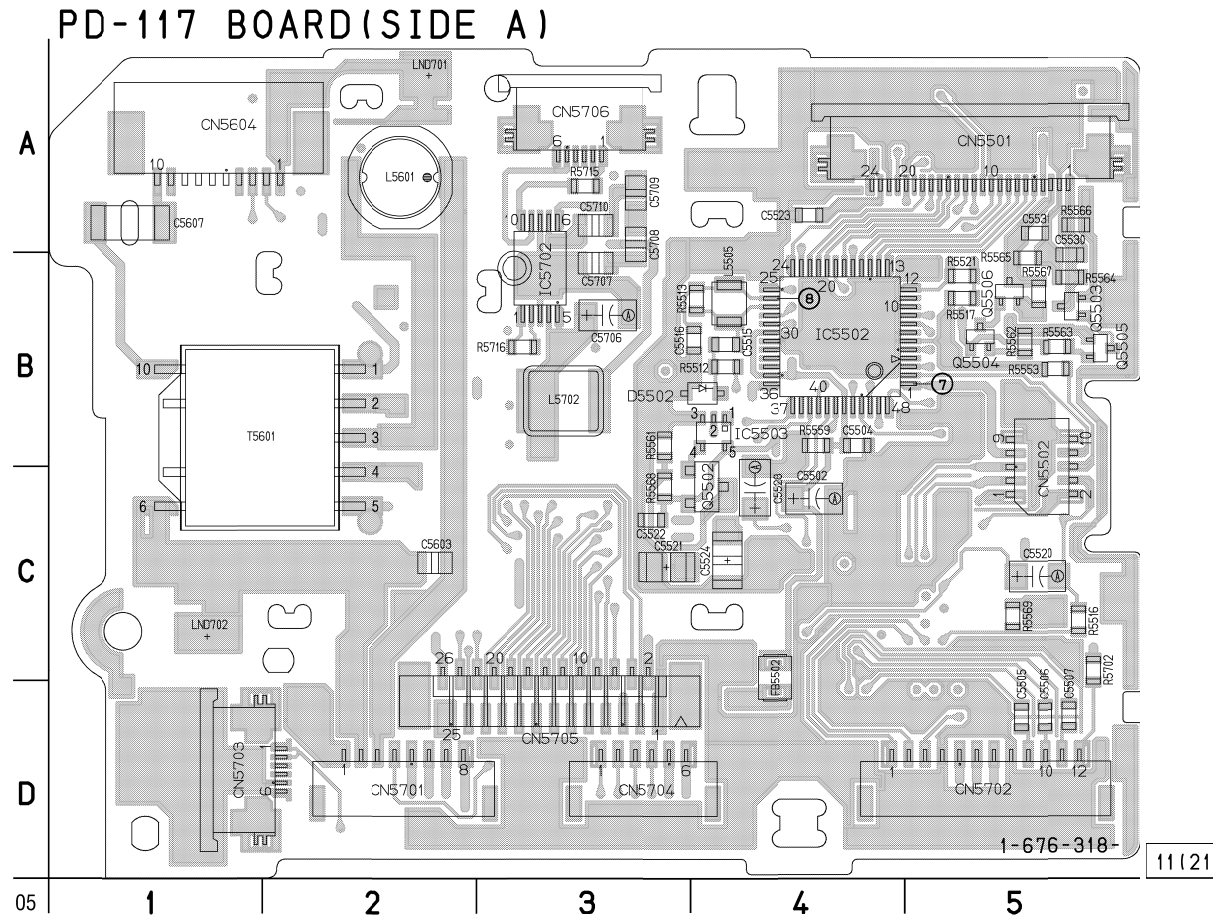
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-117 (RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT) PRINTED WIRING BOARD

– Ref. No.: PD-117 board; 20,000 series –

• **For Printed Wiring Board.**

- PD-117 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-127 for printed parts location.
- Chip transistor

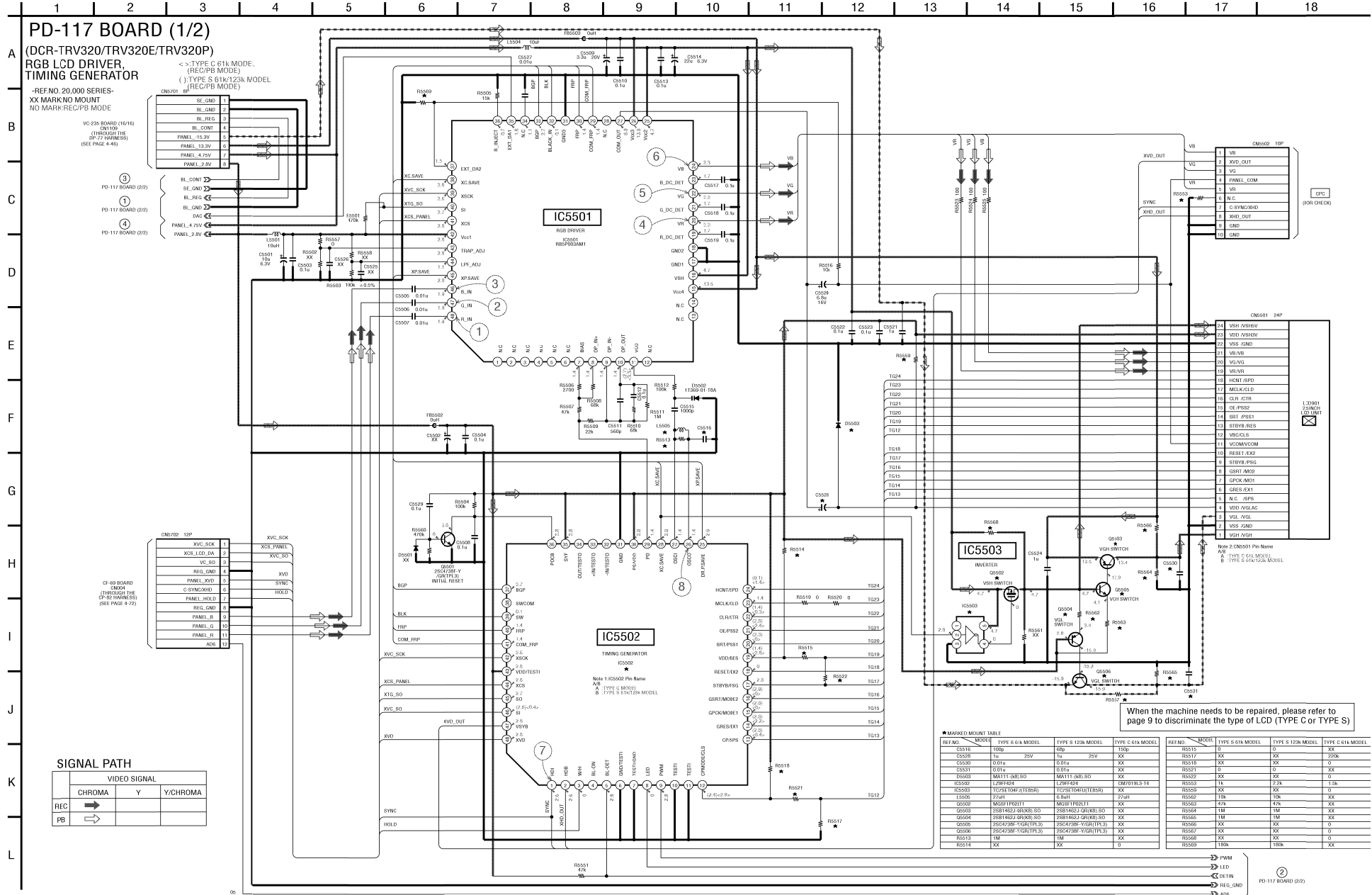


4-101

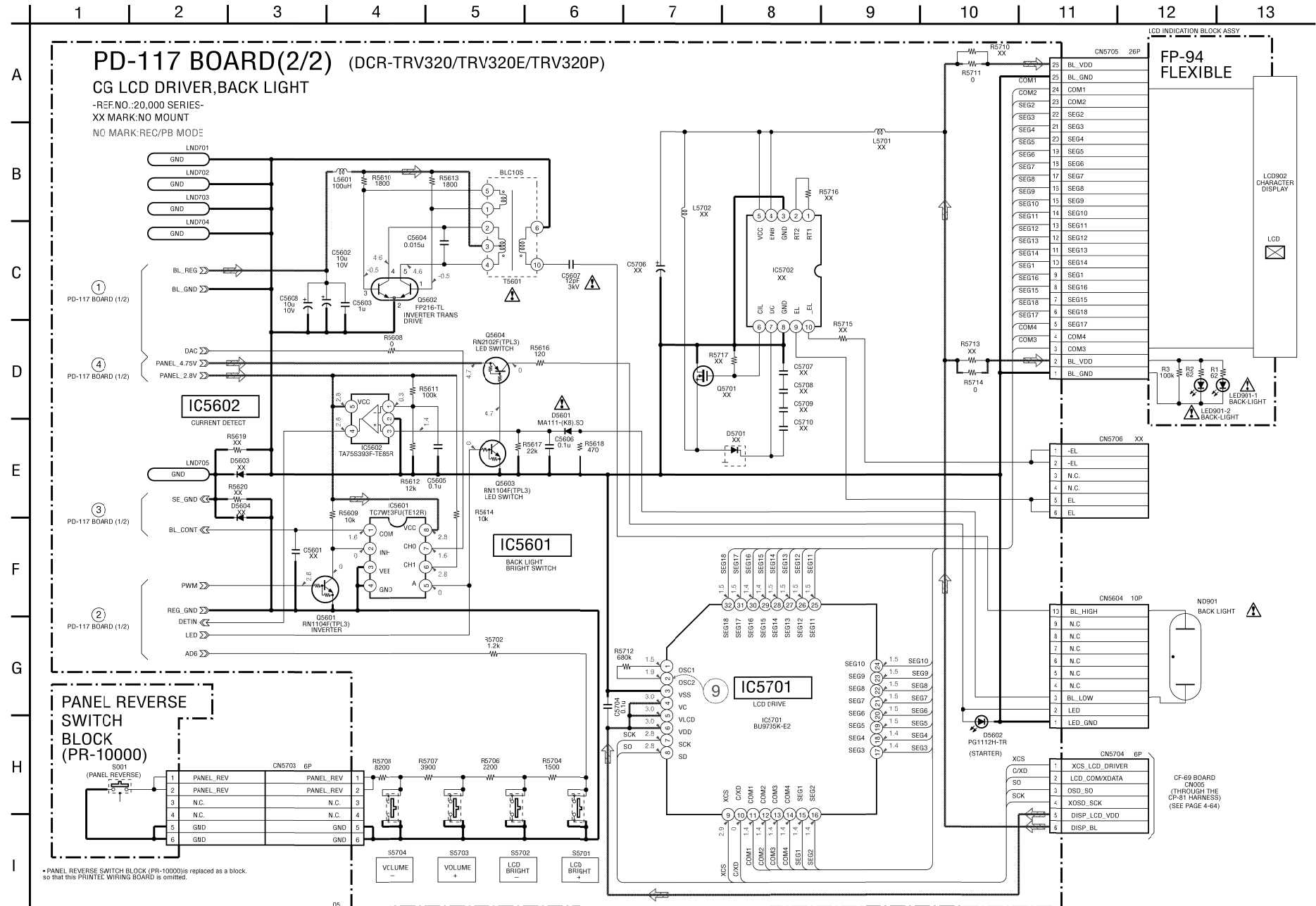


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

PD-117 (RGB LCD DRIVER, TIMING GENERATOR) SCHEMATIC DIAGRAM • See page 4-99 for PD-117 printed wiring board. • See page 4-123 for waveforms.



PR-10000 (PANEL REVERSE SWITCH BLOCK), PD-117 (CG LCD DRIVER, BACK LIGHT) SCHEMATIC DIAGRAM • See page 4-99 for PD-117 printed wiring board. • See page 4-123 for waveforms.



DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

PD-118 (RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT) PRINTED WIRING BOARD

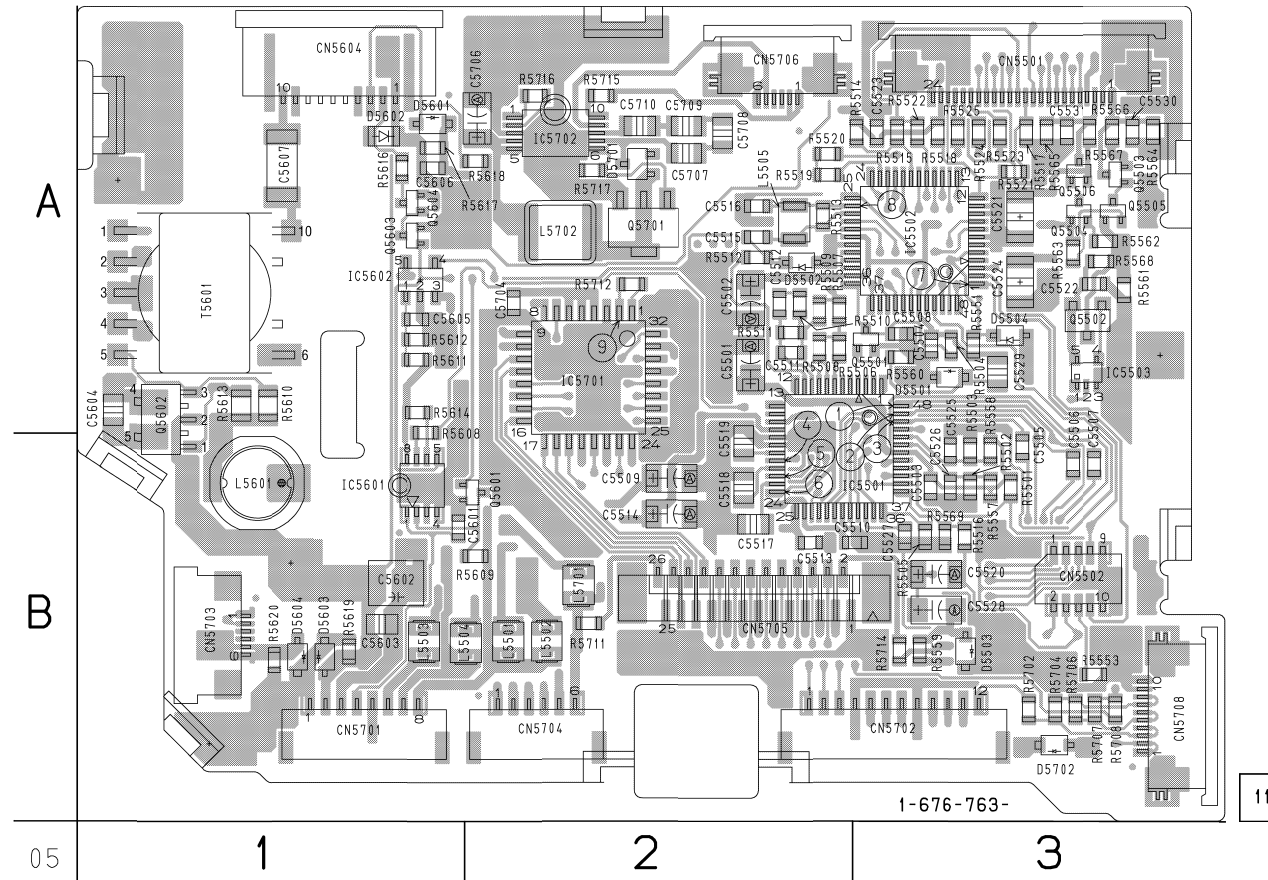
– Ref. No.: PD-118 board; 20,000 series –

• For Printed Wiring Board.

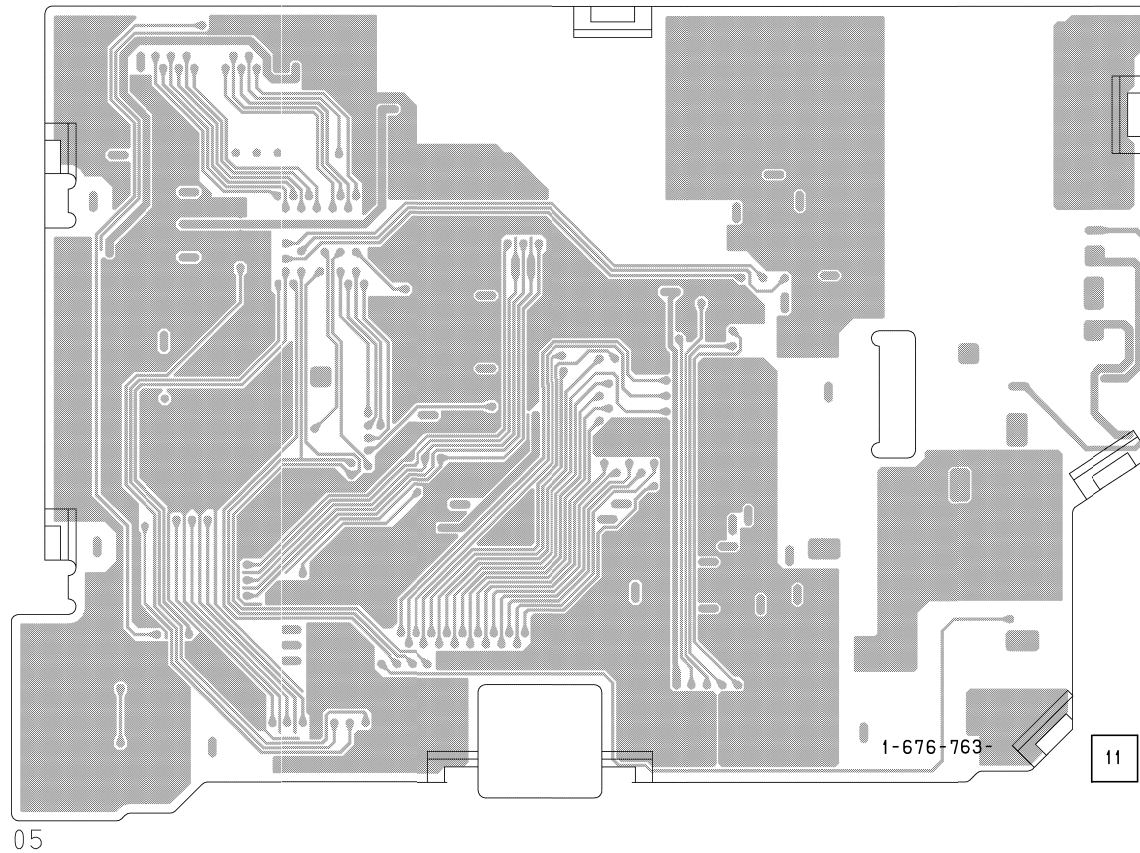
- PD-118 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-128 for printed parts location.
- PD-118 board (SIDE B) is not mounted.
- Chip transistor



PD-118 BOARD (SIDE A)

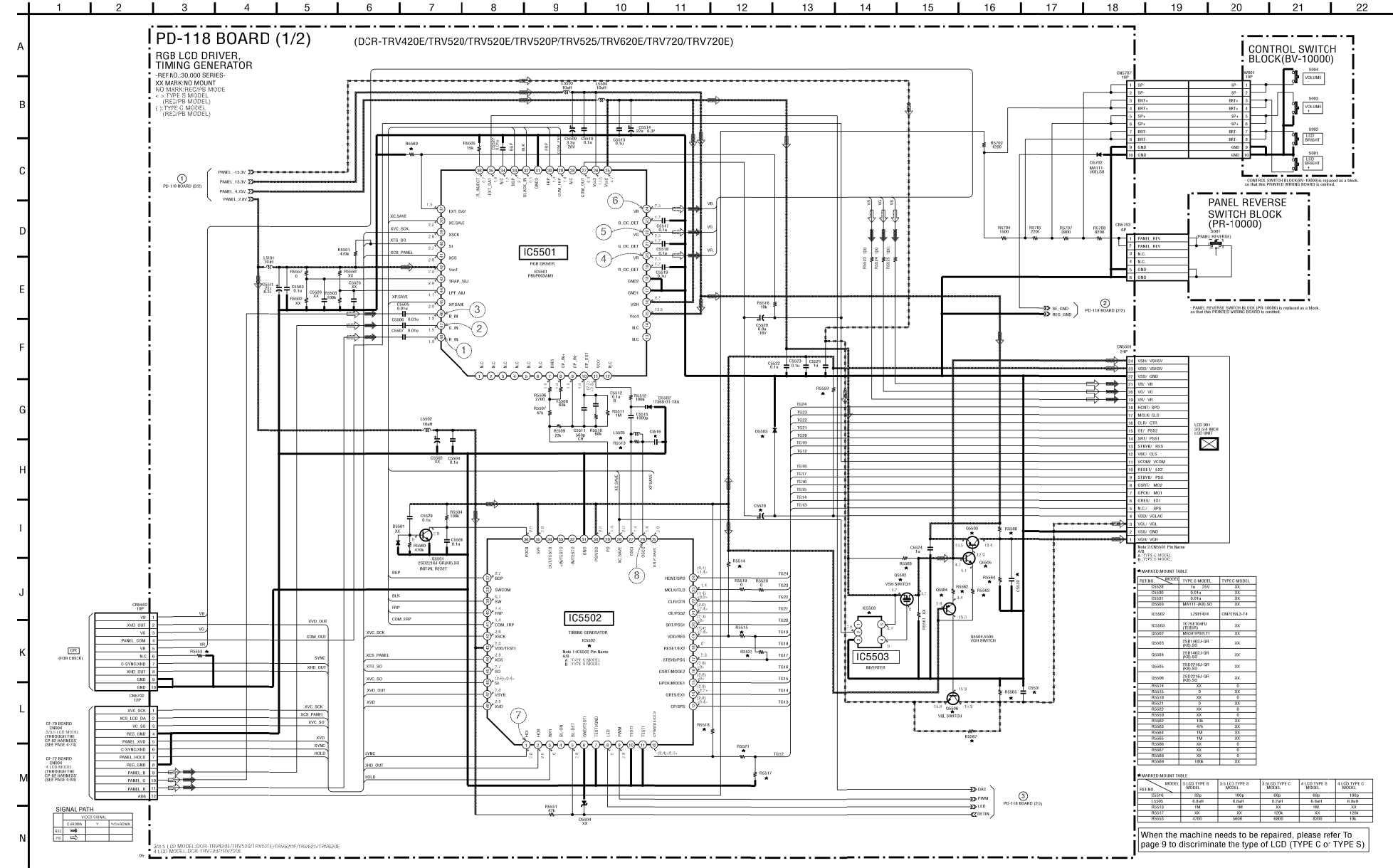


PD-118 BOARD (SIDE B)

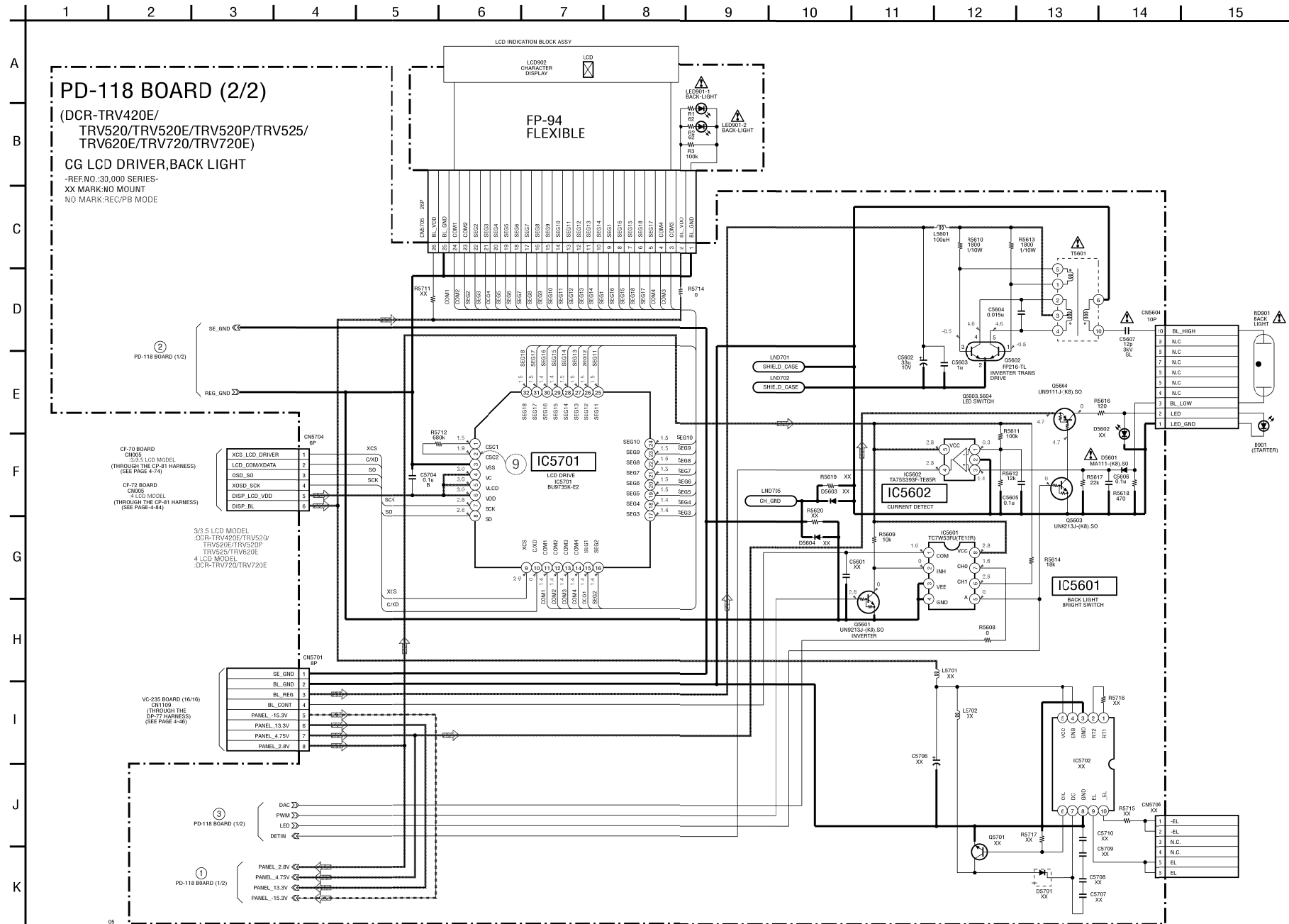


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525
TRV620E/TRV720/TRV720E

PD-118 (RGB LCD DRIVER, TIMING GENERATOR), BV-10000 (CONTROL SWITCH BLOCK), PR-10000 (PANEL REVERSE SWITCH BLOCK) SCHEMATIC DIAGRAM
• See page 4-107 for PD-118 printed wiring board. • See page 4-123 for waveforms.



PR-10000 (PANEL REVERSE SWITCH BLOCK), PD-118 (CG LCD DRIVER, BACK LIGHT) SCHEMATIC DIAGRAM • See page 4-107 for PD-118 printed wiring board. • See page 4-123 for waveforms.



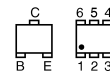
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-114

CG LCD DRIVER, BACK LIGHT
PD-118 (2/2)

- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- Chip transistor

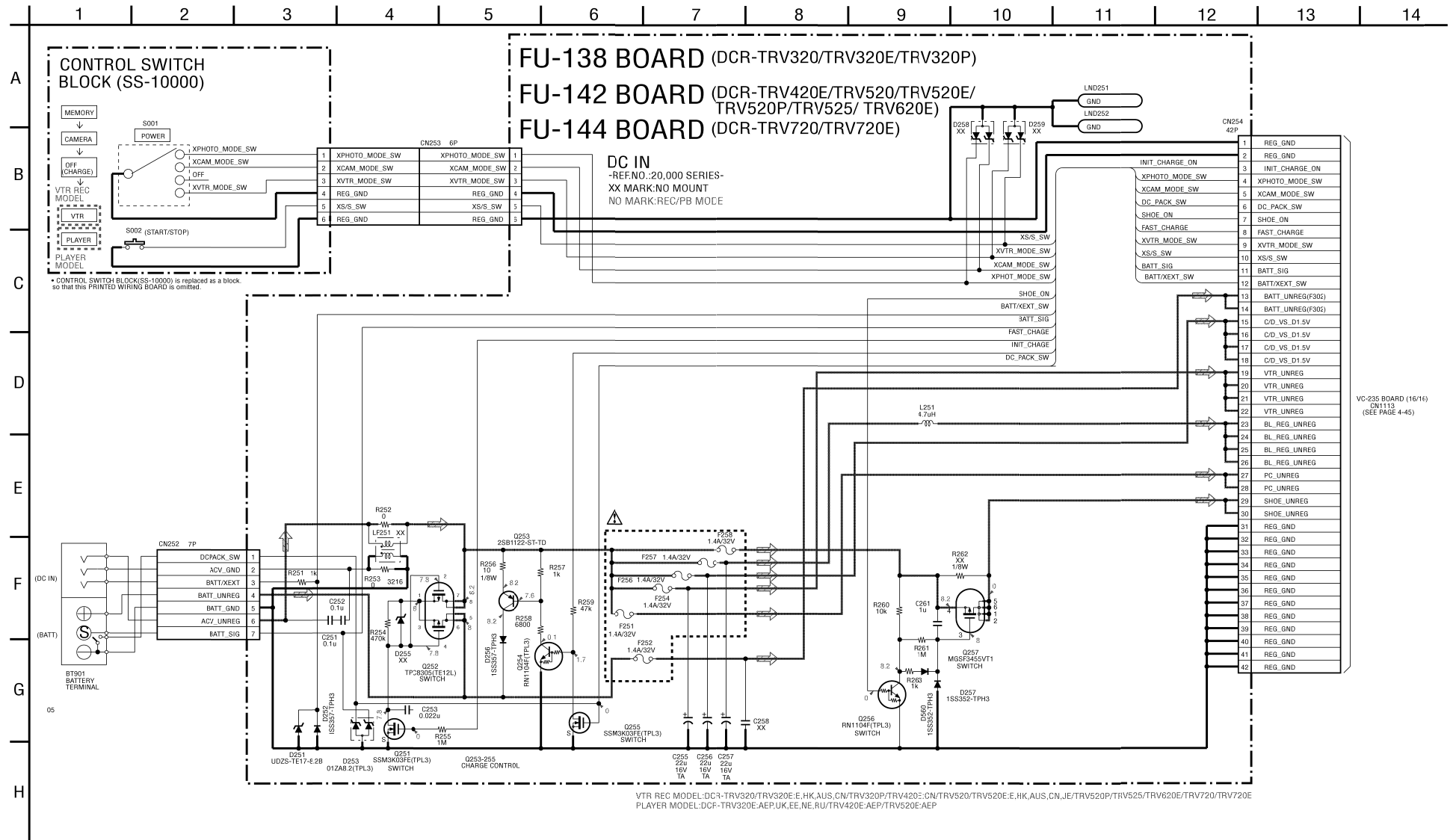



05


FU-138:1-676-775-
 FU-142:1-676-761-
 FU-144:1-676-768-

12 (22)
11 (21)
11

SS-10000 (CONTROL SWITCH BLOCK), FU-138/142/144 (DC IN) SCHEMATIC DIAGRAM

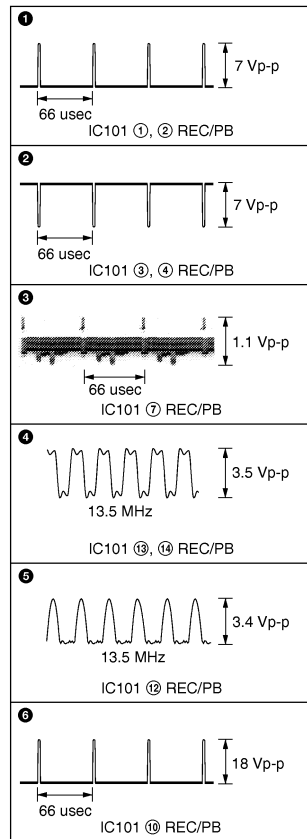


The components identified by mark  or dotted line with mark are critical for safety.
Replace only with part number specified.

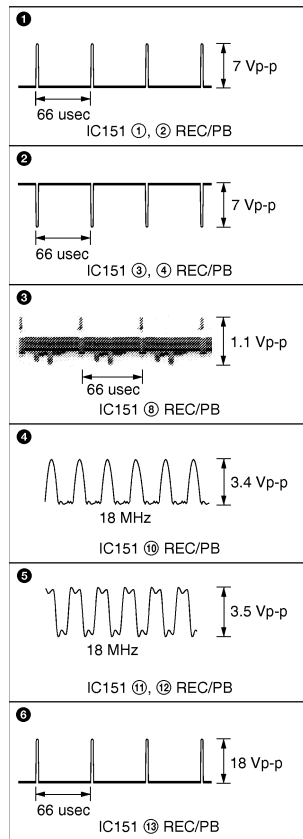
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-3. WAVEFORMS

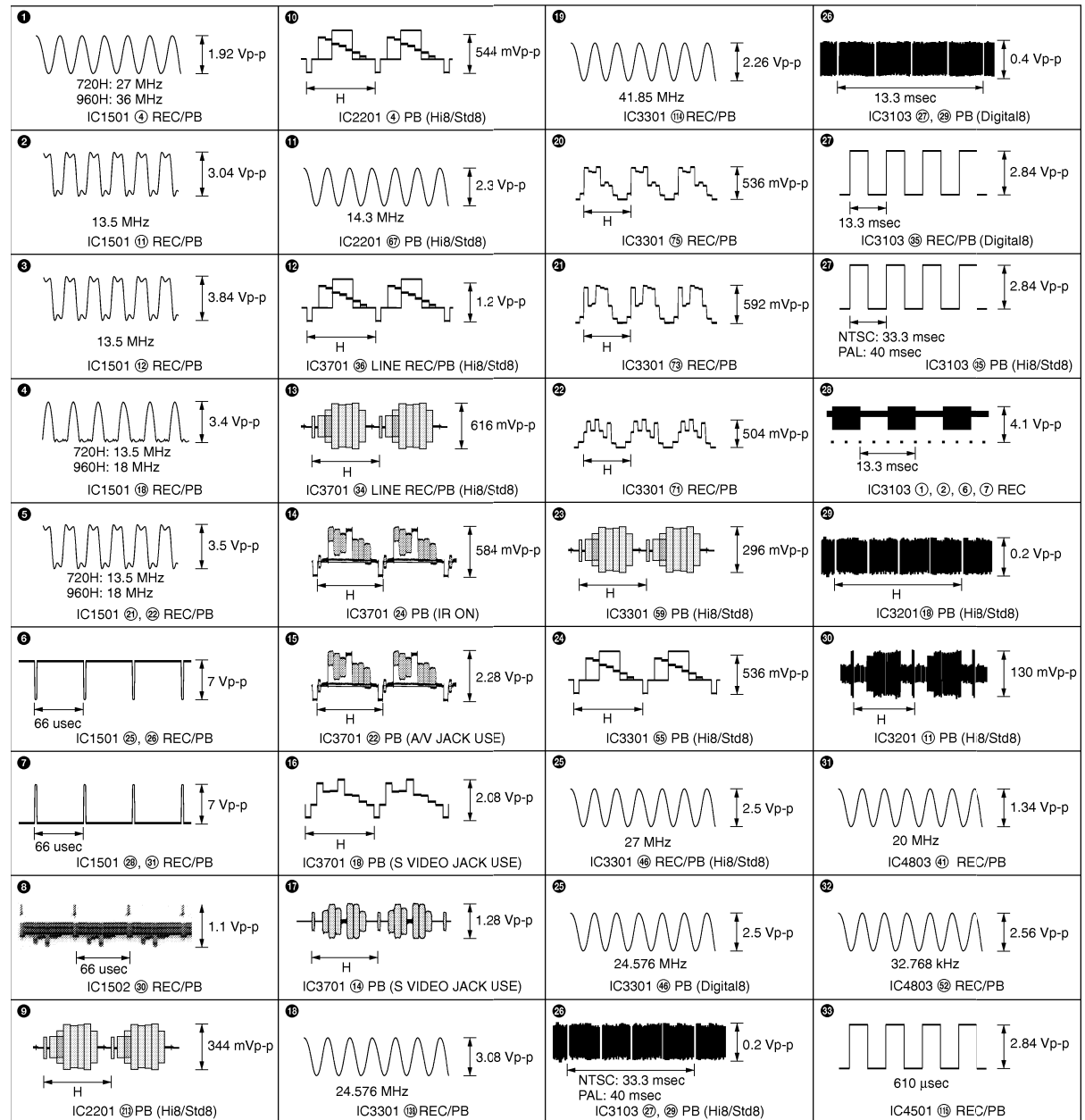
CD-242/266/270 BOARD



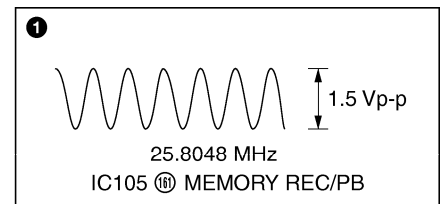
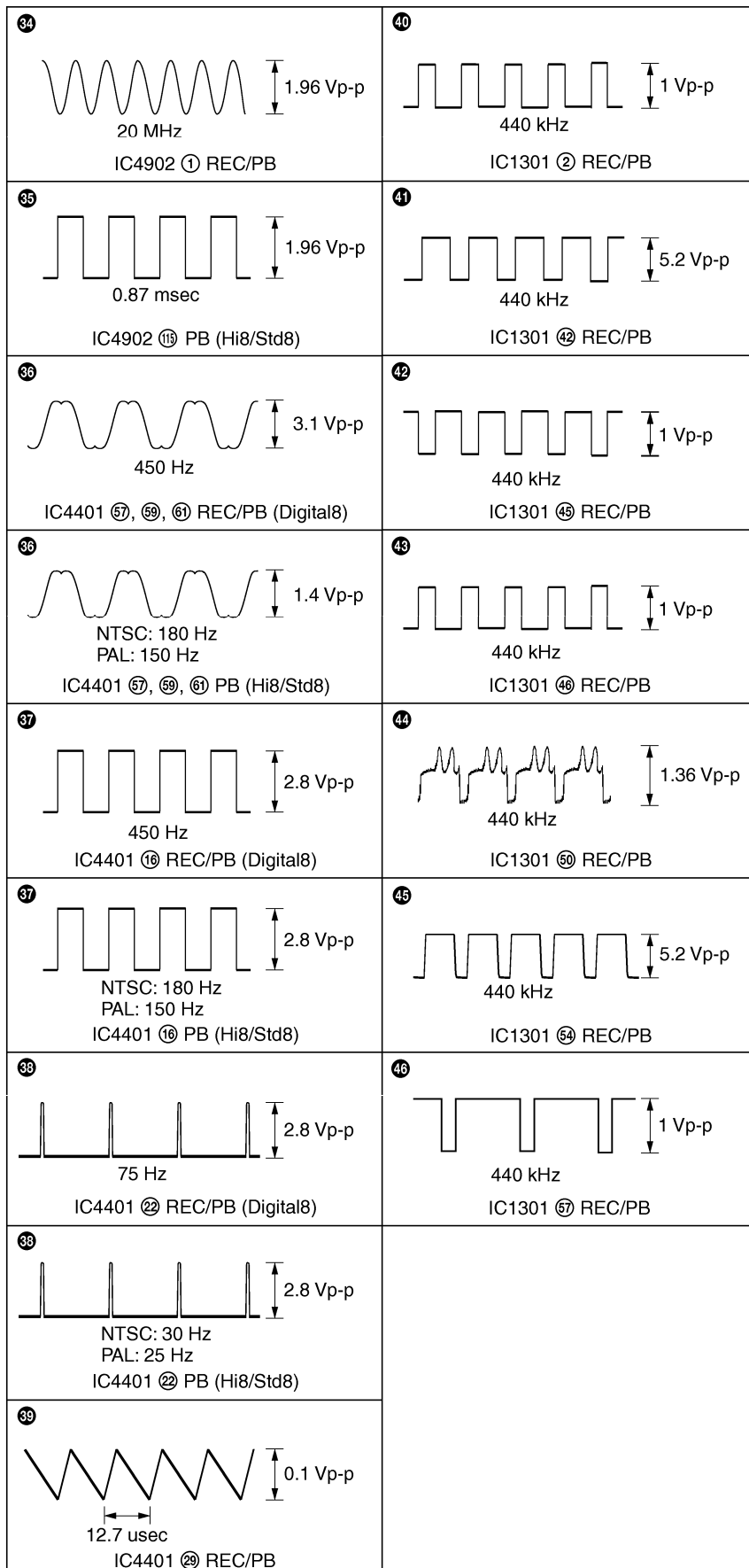
CD-244/267/271 BOARD



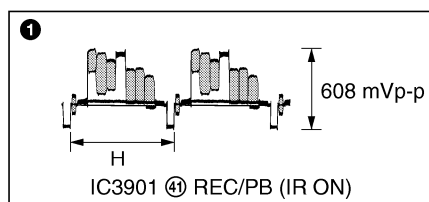
VC-235 BOARD



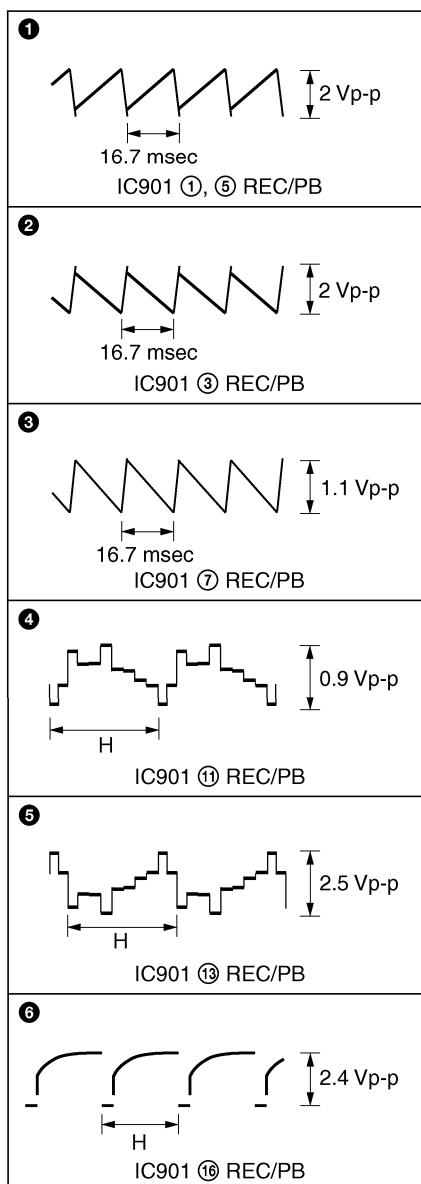
PC-77 BOARD



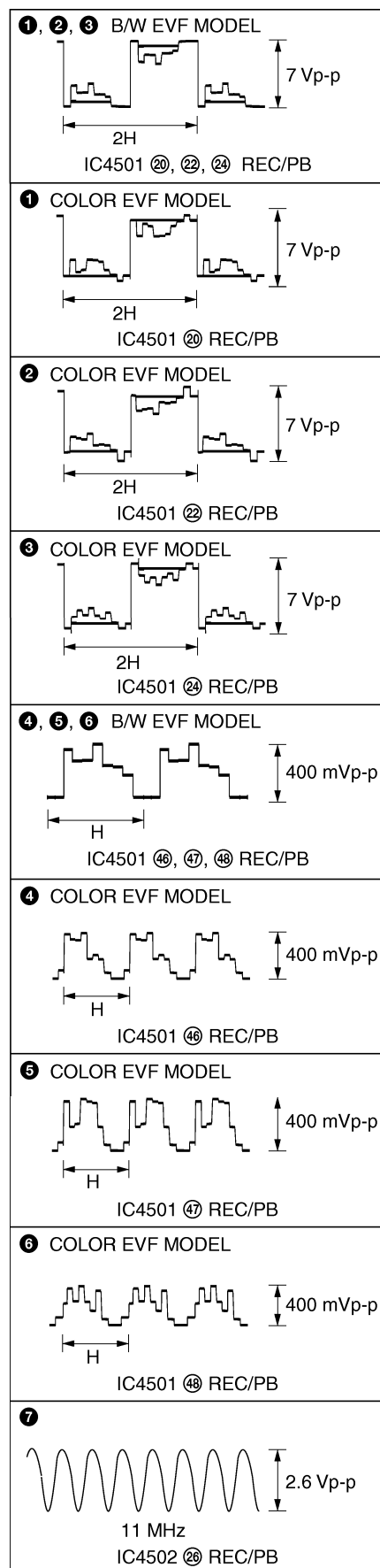
MI-37 BOARD

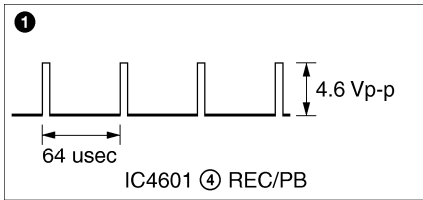
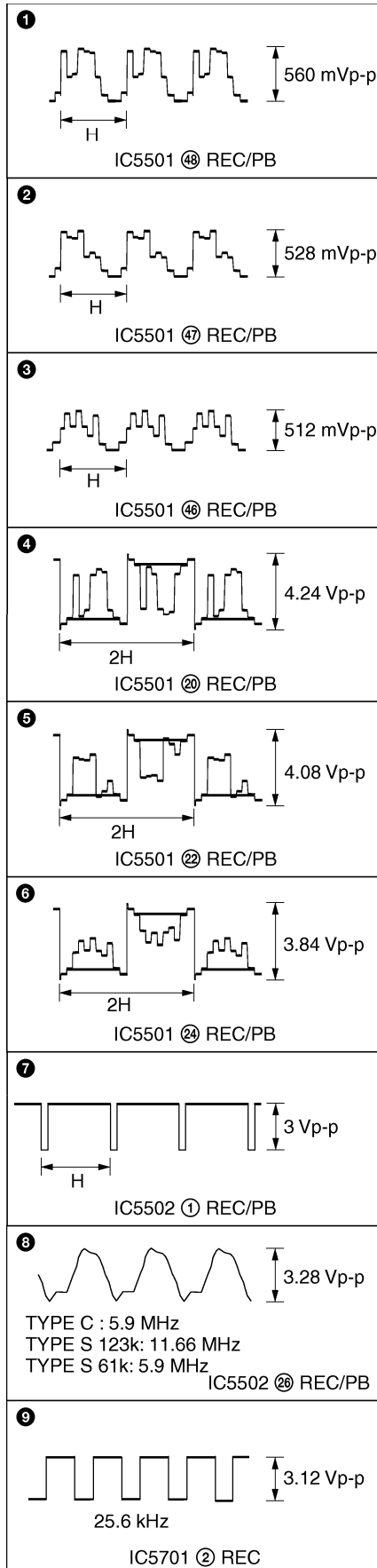
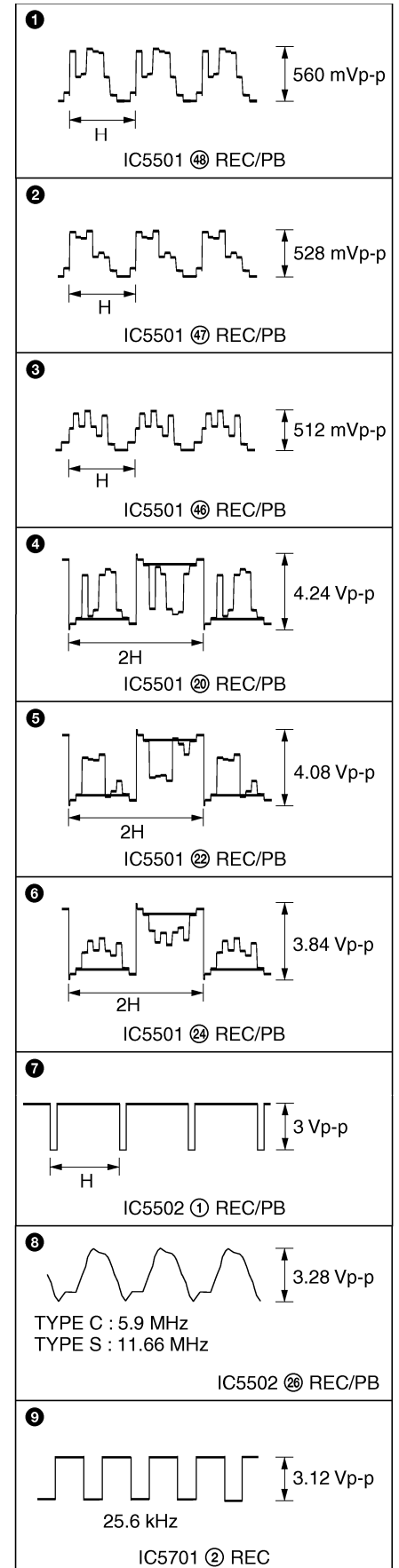


VF-129 BOARD



VF-141 BOARD



LB-62 BOARD**PD-117 BOARD****PD-118 BOARD**

4-4. PARTS LOCATION

* : C1504 is mounted on the board with suffix number **-13 (23, 33)**

VC-235 BOARD
(SIDE A)

C1320	B-6	C3207	F-3	FB1504	C-5
C1322	B-6	C3208	F-2	FB2202	C-4
C1333	C-8	C3210	F-3	FB2203	D-3
C1335	C-8	C3211	F-3	FB2204	C-3
C1336	C-8	C3212	F-3	FB2205	B-3
C1338	A-8	C3213	F-3	FB2291	F-6
C1339	C-8	C3214	F-3	FB3701	F-1
C1340	C-7	C3215	F-3	FB4801	B-5
C1341	C-8	C3216	F-3		
C1342	B-9	C3217	F-3	IC1302	B-6
C1343	C-7	C3218	F-3	IC1303	F-4
C1345	C-8	C3320	C-6	IC1502	B-4
C1346	C-9	C3327	C-6	IC1552	A-5
C1347	C-7	C3701	F-1	IC1553	A-4
C1348	B-9	C3704	F-2	IC2201	D-5
C1350	C-7	C3705	F-2	IC2202	E-4
C1352	B-6	C3706	F-2	IC2291	F-6
C1353	A-6	C3707	F-2	IC3103	F-5
C1354	C-5	C3708	F-2	IC3201	F-3
C1355	A-6	C3709	F-2	IC3202	F-3
C1356	C-8	C3710	F-2	IC3701	E-2
C1357	F-4	C3711	F-2	IC4401	F-8
C1508	B-5	C3712	F-2		
C1513	B-4	C3713	F-2	L1301	B-8
C1514	B-4	C3714	F-2	L1302	B-8
C1515	B-5	C3715	F-3	L1303	B-7
C1516	B-4	C3716	F-3	L1304	A-8
C1517	B-4	C3717	F-2	L1305	A-8
C1518	B-4	C3718	F-2	L1306	C-7
C1519	B-4	C3719	E-2	L1307	C-7
C1520	B-4	C3723	E-2	L1308	C-8
C1521	B-4	C3724	E-2	L1309	C-8
C1522	B-4	C3728	E-2	L1311	B-6
C1523	B-4	C3729	E-2	L1312	C-9
C1525	B-5	C3730	E-2	L1313	C-8
C1552	A-5	C3731	E-2	L1314	C-9
C1554	A-5	C3732	E-3	L1315	C-8
C1558	B-5	C3733	E-3	L1316	C-8
C1559	B-5	C3734	E-2	L1317	A-7
C1560	A-5	C3735	E-2	L1318	C-7
C1561	A-4	C4401	G-8	L1320	C-9
C1562	A-5	C4402	G-9	L1321	B-6
C1564	A-5	C4403	G-7	L2201	D-3
C1565	B-5	C4404	G-8	L2203	C-3
C1566	B-5	C4405	G-8	L2204	F-4
C1568	B-5	C4406	G-8	L2207	E-4
C1570	A-5	C4407	G-8	L2208	D-3
C1572	A-5	C4408	F-8	L2291	E-7
C2201	F-4	C4409	G-6	L3103	E-6
C2202	F-4	C4410	G-9	L3104	E-5
C2203	E-3	C4411	G-6	L3105	F-5
C2204	E-4	C4412	G-6	L3106	F-5
C2208	E-4	C4413	F-7	L3201	G-2
C2210	E-3	C4414	G-8	L3305	C-6
C2211	E-3	C4415	F-8	L3306	C-6
C2212	E-4	C4416	F-8	L3701	E-3
C2213	E-3	C4417	F-7	L3705	E-1
C2215	D-4	C4418	F-9		
C2223	D-4	C4419	F-7	Q1104	D-7
C2225	C-4	C4420	F-8	Q1315	B-6
C2226	E-3	C4421	F-7	Q1316	C-7
C2227	E-4	C4424	F-7	Q1318	C-6
C2228	D-3	C4425	F-8	Q1320	C-6
C2229	D-4	C4426	F-9	Q1321	C-6
C2230	E-4	C4427	F-9	Q1322	A-6
C2233	C-4	C4428	E-7	Q1323	C-6
C2234	E-4	C4429	E-7	Q1324	A-6
C2238	C-4	C4430	E-8	Q1325	C-6
C2240	B-3	C4431	E-8	Q1326	A-6
C2242	E-6	C4432	F-9	Q1551	A-5
C2243	D-6	C4433	E-7	Q1554	B-5
C2244	C-3	C4434	E-7	Q2204	F-4
C2247	E-4	C4435	E-8	Q3103	F-4
C2250	C-4	C4436	E-8	Q3104	F-6
C2291	E-6	C4801	A-6	Q3105	F-5
C2292	F-7	C4821	B-5	Q3106	F-5
C2293	F-6	C4822	B-6	Q3108	F-6
C3111	E-6			Q3111	F-6
C3121	F-5	CN1104	E-7	Q3116	F-5
C3122	F-5	CN1105	D-8	Q3201	F-3
C3123	F-5	CN1107	A-7	Q3701	G-1
C3124	F-5	CN1109	G-1	Q4401	G-8
C3126	F-5	CN1111	F-1	Q4402	E-8
C3127	F-5	CN1113	F-9	Q4801	A-6
C3128	F-4	CN1551	A-5	Q4802	A-6
C3131	F-4	CN3101	G-4	Q4803	A-6
C3133	F-4	CN4401	G-2	Q4805	A-6
C3134	F-6	CN4402	G-6		
C3135	F-6	CN4403	G-7	R1124	D-7
C3136	F-6	CN4404	G-8	R1129	C-7
C3138	F-5			R1130	C-7
C3139	F-6	D1301	B-8	R1134	D-7
C3201	G-3	D1302	B-9	R1145	C-7
C3202	G-2	D1305	B-9	R1308	A-6
C3203	G-2	D1306	B-9	R1315	F-4
C3204	F-2	D1551	A-5	R1323	C-7
C3205	F-3	D2201	E-5	R1327	B-6
C3206	F-2	D2202	E-4	R1330	C-6

VC-235 BOARD
(SIDE B)

R3308	C-3	C1101	A-4	C3332	G-1	C5725	G-4
R3382	C-6	C1301	C-8	C3333	G-2	C5728	G-4
R3383	C-6	C1302	C-7	C3334	C-3	C5730	G-4
R3701	G-1	C1303	C-7	C3335	G-2	C5731	F-4
R3702	G-1	C1304	C-8	C3337	F-1	C5732	E-3
R3704	G-1	C1305	C-8	C3338	G-1	C5733	F-4
R3705	G-1	C1306	C-7	C3342	C-6	C5734	E-3
R3712	F-2	C1307	C-8	C3343	C-5	C5735	F-4
R3713	F-2	C1308	C-8	C3345	C-5	C5736	G-4
R3714	F-2	C1309	C-7	C3346	E-5	C5737	E-3
R3715	F-2	C1310	C-8	C3348	E-6	C5738	G-4
R3716	F-2	C1311	C-7	C3601	C-7	C5739	E-3
R3717	F-2	C1312	C-8	C3603	D-7	C5740	F-4
R3721	F-2	C1313	B-7	C3604	C-6	C5741	F-4
R3722	F-2	C1314	B-8	C3608	D-7	C5742	G-4
R3724	E-2	C1315	B-7	C3610	C-8	C5743	F-4
R3726	E-2	C1316	B-8	C3611	D-6	C5744	F-4
R3727	E-2	C1317	B-8	C3612	D-6	C5745	F-4
R3728	E-2	C1318	B-8	C3613	D-7	C5746	F-4
R3729	E-2	C1319	B-7	C3614	D-7	C5747	F-4
R3730	E-2	C1321	A-8	C3615	D-7	C5748	F-4
R3734	F-1	C1323	B-8	C3616	D-7	C5749	F-4
R4401	G-7	C1326	B-8	C3617	D-7	C5750	E-2
R4402	G-7	C1327	B-8	C3618	D-7	C5751	E-2
R4405	F-7	C1328	A-9	C3619	D-7	C5752	E-1
R4407	G-8	C1329	B-7	C3620	D-7	C5753	E-1
R4408	G-7	C1330	A-8	C3621	D-8	C5754	E-2
R4409	G-7	C1331	A-8	C3622	D-6	C5755	E-2
R4410	G-7	C1332	A-7	C3626	D-8	C5756	E-1
R4411	G-9	C1334	A-9	C3628	D-8	C5757	E-1
R4413	G-8	C1337	A-9	C3629	D-8	C5758	G-3
R4414	G-9	C1344	A-7	C3630	E-8	C5759	G-4
R4416	F-8	C1351	C-9	C3631	E-6		
R4417	F-9	C1359	A-9	C3632	E-8	CN1101	A-4
R4423	F-8	C1501	B-5	C3633	E-7	CN1103	F-1
R4424	F-9	C1502	B-5	C3634	E-7	CN1108	C-9
R4425	F-7	C1503	B-5	C3636	D-6		
R4426	F-7	*C1504	B-5	C4501	G-6	D1101	A-4
R4427	F-8	C1505	B-5	C4504	F-7	D1102	A-4
R4428	F-7	C1506	B-5	C4505	F-7	D1103	A-7
R4429	F-7	C1507	B-4	C4506	F-7	D1104	A-8
R4430	F-9	C1509	B-4	C4507	E-7	D3301	E-6
R4431	F-8	C1511	C-5	C4508	F-7	D3302	E-6
R4432	E-8	C1512	C-4	C4509	G-6	D3303	C-6
R4434	E-7	C1524	B-4	C4510	E-6	D3304	C-6
R4435	E-7	C1556	A-5	C4802	E-8	D4401	D-8
R4436	E-8	C1563	B-4	C4803	E-9	D4801	E-8
R4437	F-8	C1569	A-5	C4804	F-9	D4802	E-9
R4438	F-8	C1571	A-5	C4805	E-9	D4803	E-8
R4442	G-8	C2232	C-4	C4806	A-6	D4804	E-9
R4443	G-7	C3102	E-5	C4807	A-6	D4808	A-5
R4444	E-8	C3104	F-4	C4808	A-7	D4809	A-5
R4445	G-8	C3105	E-5	C4809	A-7	D4810	A-6
R4446	E-8	C3107	F-4	C4810	A-7	D4811	E-9
R4447	G-7	C3108	F-5	C4811	A-7		
R4448	G-7	C3109	F-5	C4812	A-6	FB1501	B-4
R4801	A-6	C3110	F-5	C4813	A-6	FB1502	B-4
R4802	A-6	C3112	F-5	C4814	A-6	FB1503	B-4
R4806	A-6	C3113	F-5	C4816	A-6	FB1505	B-4
R4807	A-6	C3114	F-5	C4817	A-6	FB3303	F-4
R4809	A-6	C3115	F-5	C4819	C-6	FB3304	G-2
R4810	A-6	C3116	F-4	C4820	B-5	FB3307	C-3
R4851	D-8	C3117	F-5	C4823	B-5	FB3601	E-8
R4876	B-6	C3118	F-5	C4824	A-5	FB4501	F-7
		C3119	F-4	C4825	A-5	FB4901	G-9
T1301	A-9	C3120	F-5	C4826	A-5		
		C3137	G-5	C4902	G-8	IC1301	C-8
X4802	B-6	C3141	G-5	C4903	G-7	IC1501	B-4
		C3142	G-4	C4904	G-7	IC3101	F-5
		C3143	G-4	C4905	F-7	IC3102	F-5
		C3144	G-5	C4906	F-7	IC3301	D-4
		C3301	D-3	C4907	G-7	IC3302	D-3
		C3302	F-4	C4908	G-8	IC3303	F-2
		C3303	C-3	C4909	G-8	IC3603	D-7
		C3305	E-4	C4910	G-8	IC4501	F-6
		C3306	D-3	C4911	F-9	IC4502	E-7
		C3307	E-4	C5701	E-2	IC4801	E-8
		C3308	E-4	C5702	E-2	IC4802	E-9
		C3309	C-4	C5703	E-2	IC4803	B-6
		C3310	E-4	C5704	E-2	IC4901	F-9
		C3311	C-5	C5705	E-3	IC4902	F-8
		C3312	E-5	C5706	E-3	IC5701	F-3
		C3313	E-6	C5709	E-2	IC5702	E-1
		C3314	E-6	C5710	F-2		
		C3315	C-6	C5711	G-2	L1310	A-8
		C3316	C-6	C5712	G-3	L1501	B-4
		C3317	E-6	C5713	E-3	L1551	A-4
		C3318	E-6	C5714	G-3	L1552	A-4
		C3319	E-6	C5715	E-3	L1553	A-5
		C3321	C-5	C5716	G-3	L2202	C-4
		C3322	E-6	C5717	E-2	L2209	C-4
		C3323	D-6	C5718	F-3	L3102	G-5
		C3324	C-6	C5719	E-3	L3303	E-6
		C3325	C-6	C5720	F-3	L3304	C-6
		C3326	C-6	C5721	F-3	L3307	G-2
		C3328	C-6	C5722	E-3	L3601	C-7
		C3329	G-2	C5723	G-3	L3602	C-7
		C3331	G-1	C5724	E-3	L5701	E-2

										PC-77 BOARD (SIDE A)		PC-77 BOARD (SIDE B)			
Q1101	A-7	R1348	B-8	R3618	C-6	R4874	B-5	X4801	C-6	C101	A-1	C104	A-1	R140	A-2
Q1102	A-7	R1501	B-5	R3622	D-7	R4875	B-5	X4901	G-7	C102	A-1	C105	B-1	R141	B-2
Q1103	A-8	R1502	B-5	R3636	D-8	R4877	B-5			C128	B-2	C106	A-1	R142	B-2
Q1301	A-9	R1503	B-5	R3639	D-8	R4878	B-5			C138	A-2	C108	A-1	R156	A-1
Q1302	B-8	R1504	B-4	R3643	D-6	R4879	B-5			C140	B-2	C109	A-1	R157	A-1
Q1303	A-8	R1505	B-4	R3652	D-6	R4880	B-5			C141	A-3	C110	B-1	R158	A-1
Q1304	A-8	R1506	B-4	R3656	E-8	R4881	B-5			C142	A-2	C111	B-1	R162	A-1
Q1305	B-7	R1512	C-4	R3657	D-6	R4882	B-5			C144	B-2	C112	B-1	R163	A-2
Q1306	A-8	R1551	A-5	R3658	C-7	R4883	B-5			C145	B-2	C113	B-1	R164	A-1
Q1307	B-8	R1555	A-5	R3659	C-6	R4884	B-5			C146	B-1	C114	B-1	R166	A-1
Q1308	A-8	R1557	A-5	R3660	C-7	R4885	A-5			C147	A-1	C115	A-1	R172	A-1
Q1309	A-7	R1558	A-5	R4403	E-7	R4886	A-5			C148	A-1	C116	B-1	R708	A-3
Q1310	B-8	R1559	A-5	R4404	E-7	R4887	A-5			C150	A-1	C117	B-1	R709	A-3
Q1311	B-9	R3103	F-4	R4406	E-8	R4888	A-5			C154	A-1	C118	B-2	R711	A-3
Q1312	B-9	R3104	F-4	R4502	G-6	R4892	A-5			C155	A-1	C119	B-2	R713	A-3
Q1313	B-9	R3105	E-5	R4503	G-6	R4894	B-5			C157	B-1	C120	B-2	R714	A-3
Q1314	B-9	R3106	F-5	R4504	G-6	R4895	A-7			C158	A-2	C121	A-2	H801	A-1
Q1317	C-8	R3107	F-5	R4505	G-6	R4897	A-6			C159	A-1	C122	B-2	H802	A-1
Q1319	C-9	R3108	F-5	R4507	G-7	R4898	A-5			C701	A-3	C123	A-2		
Q1552	A-5	R3109	F-5	R4508	F-7	R4899	C-7			C702	A-3	C125	A-2	X101	B-1
Q1553	A-5	R3110	F-5	R4511	E-7	R4901	F-7			C703	A-3	C126	A-2		
Q3102	F-4	R3111	F-4	R4512	F-7	R4902	G-7			C704	A-3	C127	B-2		
Q3107	G-5	R3112	F-5	R4514	F-7	R4903	G-7			C705	A-3	C129	B-2		
Q3109	G-4	R3113	F-5	R4515	E-7	R4904	F-9			C706	A-3	C130	A-2		
Q3110	G-5	R3128	G-5	R4516	E-7	R4906	G-7			C710	A-3	C131	A-2		
Q3112	F-4	R3139	G-4	R4517	E-6	R4908	E-8			C720	A-3	C132	A-2		
Q3113	F-4	R3140	F-4	R4518	E-6	R4910	E-8			C721	A-3	C133	A-2		
Q3114	F-5	R3141	G-5	R4520	E-7	R4911	E-8			C727	A-3	C134	A-2		
Q3115	F-5	R3142	F-5	R4521	E-6	R4912	E-8			C728	A-3	C135	A-2		
Q3301	D-6	R3146	F-4	R4522	E-6	R4913	E-8			C801	A-1	C136	A-2		
Q3302	D-6	R3305	D-3	R4523	E-6	R4914	E-8			C802	A-1	C137	A-3		
Q3303	D-6	R3309	E-6	R4524	E-6	R4915	G-8					C143	A-3		
Q3304	D-6	R3310	E-6	R4525	E-6	R4916	G-8			D101	A-2	C151	A-1		
Q3305	D-6	R3311	E-6	R4526	E-6	R4917	E-8			D102	B-1	C156	A-1		
Q3306	D-6	R3312	E-6	R4527	E-7	R4918	G-8			D104	A-1	C707	A-3		
Q3307	D-6	R3313	E-6	R4528	E-7	R4919	G-7					C708	A-3		
Q3308	D-6	R3314	D-6	R4529	E-7	R4920	F-9			FB101	A-1	C711	A-3		
Q3602	C-7	R3315	D-5	R4530	F-7	R4921	F-9			FB105	B-3	C712	A-3		
Q3603	D-7	R3316	D-5	R4531	F-7	R4922	F-9			FB106	B-1	C713	A-3		
Q3604	C-6	R3317	C-5	R4532	E-6	R4923	F-9			FB107	A-1	C714	A-3		
Q3605	D-6	R3318	C-6	R4533	F-5	R4924	F-9					C715	A-3		
Q3606	D-7	R3319	C-6	R4534	F-5	R4925	F-9			IC104	B-1	C717	A-3		
Q4804	E-8	R3320	E-6	R4803	E-8	R4926	F-9			IC107	A-3	C718	B-3		
Q4806	E-9	R3321	C-5	R4804	A-5	R4927	F-9			IC108	A-2	C722	A-3		
Q4807	A-6	R3322	E-6	R4808	E-8	R4928	F-9			IC109	A-2				
Q4808	A-6	R3323	C-6	R4811	E-7	R4929	F-9			IC701	A-3	CN801	A-1		
Q4809	A-5	R3324	C-6	R4813	A-7	R4930	F-9								
Q4810	C-7	R3325	C-6	R4814	B-7	R4931	F-9			Q101	A-1	D103	A-2		
Q4811	E-9	R3326	C-5	R4815	B-7	R4932	F-9			Q102	A-1				
Q4812	E-9	R3327	D-6	R4816	B-7	R4933	F-9			Q105	A-2	FB102	A-3		
Q4901	F-7	R3328	D-6	R4817	B-7	R4934	F-9			Q106	A-2	FB103	A-2		
Q5701	G-3	R3329	D-6	R4818	B-7	R4935	G-8					FB104	A-3		
Q5703	E-2	R3331	D-6	R4819	B-7	R4936	G-8			R102	A-1	FB801	A-1		
Q5704	G-2	R3332	D-6	R4820	A-7	R4938	F-9			R103	A-1				
Q5706	E-2	R3333	G-2	R4821	A-7	R4939	F-9			R104	A-1	IC103	A-1		
Q5708	E-2	R3334	D-6	R4822	A-7	R4940	F-9			R105	A-1	IC105	A-2		
Q5714	G-3	R3335	D-6	R4823	E-9	R4941	F-9			R107	A-1	IC702	A-3		
Q5715	G-3	R3336	D-6	R4824	F-9	R4942	F-9			R129	A-2				
		R3337	G-2	R4825	B-7	R4943	G-9			R131	A-2	L101	A-3		
		R3338	D-6	R4826	B-7	R4944	F-9			R134	A-2	L102	A-1		
R1101	A-4	R3340	D-6	R4827	B-7	R5701	E-2			R143	A-2	L701	A-3		
R1127	G-8	R3341	D-6	R4828	B-7	R5702	E-2			R144	B-3	L702	A-3		
R1128	G-8	R3343	D-6	R4829	B-7	R5707	E-2			R145	B-3	L703	A-3		
R1131	G-9	R3346	G-1	R4830	B-7	R5708	E-2			R146	B-3	L704	A-3		
R1132	G-9	R3349	G-2	R4831	A-5	R5709	E-2			R147	B-3	L705	B-3		
R1137	A-8	R3350	G-1	R4832	C-7	R5710	E-2			R148	B-3	L706	A-3		
R1141	A-7	R3351	D-6	R4833	A-6	R5711	G-3			R149	B-3				
R1142	C-9	R3352	E-1	R4834	A-6	R5712	G-3			R150	B-3	Q103	A-1		
R1143	C-9	R3356	C-6	R4835	A-6	R5714	E-3			R151	B-2	Q104	A-2		
R1144	D-9	R3358	D-6	R4836	A-6	R5715	E-3			R154	A-2	Q701	A-2		
R1146	A-8	R3360	C-6	R4837	C-6	R5717	G-3			R159	B-2	Q702	A-3		
R1147	A-8	R3361	F-1	R4838	C-6	R5718	G-3			R160	B-2				
R1301	C-8	R3362	G-1	R4839	C-6	R5719	G-3			R165	A-1	R106	A-1		
R1302	C-8	R3364	F-1	R4840	C-6	R5720	E-3			R167	A-1	R108	A-1		
R1303	C-8	R3365	G-1	R4841	A-7	R5721	E-3			R168	A-1	R109	A-1		
R1304	B-8	R3367	F-1	R4842	A-7	R5722	E-3			R170	A-1	R110	B-1		
R1305	C-8	R3368	F-1	R4843	A-7	R5723	E-3			R701	A-3	R111	A-1		
R1306	C-7	R3369	G-1	R4844	A-7	R5724	F-4			R702	A-3	R112	A-1		
R1307	C-8	R3370	F-1	R4845	C-7	R5725	F-4			R703	A-3	R113	B-1		
R1309	C-8	R3371	G-1	R4846	A-6	R5730	F-4			R704	A-3	R114	B-1		
R1310	C-7	R3372	F-1	R4847	A-5	R5731	F-1			R706	A-3	R117	B-2		
R1311	C-7	R3375	D-3	R4848	A-6	R5732	F-1			R707	A-3	R118	B-2		
R1312	C-8	R3376	D-3	R4849	A-6	R5733	F-4			R715	A-3	R119	B-2		
R1313	C-7	R3377	E-5	R4850	A-5	R5735	E-1			R716	A-1	R120	B-2		
R1314	C-8	R3378	C-5	R4852	A-5	R5736	E-1					R121	B-2		
R1316	B-9	R3379	C-5	R4853	A-5	R5737	E-1					R122	B-2		
R1317	B-9	R3380	E-4	R4856	E-9	R5738	E-1					R123	B-2		
R1318	B-9	R3381	E-6	R4861	A-6	R5739	E-1					R124	B-2		
R1319	B-9	R3385	E-4	R4862	A-6	R5740	E-1					R125	B-2		
R1320	B-9	R3386	D-3	R4863	C-6	R5741	E-1					R126	B-2		
R1321	B-9	R3387	D-7	R4864	C-6	R5742	G-3					R128	B-2		
R1322	B-9	R3388	D-7	R4866	C-6	R5743	G-3					R130	B-2		
R1324	C-9	R3604	D-8	R4867	A-6	R5744	G-3					R133	B-2		
R1325	C-9	R3607	C-7	R4868	A-6	R5745	G-3					R135	B-2		
R1326	C-8	R3609	D-6	R4869	A-6	R5746	G-3					R136	B-2		
R1328	C-9	R3611	C-7	R4871	C-6							R137	B-2		
R1329	C-9	R3612	C-6	R4872	C-6	X1501	B-3					R138	A-2		
R1345	B-7	R3617	D-7	R4873	C-6	X3301	F-4					R139	A-2		
R1347	B-8														

SE-104/112/114 BOARD (SIDE A)		SE-104/112/114 BOARD (SIDE B)		MI-37 BOARD (SIDE A)				MI-37 BOARD (SIDE B)				CF-69 BOARD (SIDE A)		CF-69 BOARD (SIDE B)	
C201	D-2	C220	G-3	C3905	A-3	R5829	A-2	C3900	B-3	CN003	E-1	BH001	B-3		
C202	D-2	C221	G-3	C3906	A-3	R5830	A-2	C3901	A-3	CN008	B-1				
C203	D-2			C3908	A-3	R5831	A-2	C3902	A-3			C001	E-1		
C204	B-2	CN202	F-2	C3910	A-3	R5834	A-2	C3904	A-3	D009	E-4				
C207	G-2			C3912	B-3	R5846	A-2	C3907	B-2			CN001	B-4		
C208	G-2	D202	D-3	C3913	B-3	R5847	A-1	C3909	B-3	R001	D-6	CN002	E-1		
C209	F-2	D211	D-2	C3914	B-3			C3911	B-3	R002	B-5	CN004	C-1		
C210	F-2			C3917	B-3			C3915	A-3	R003	C-6	CN005	B-1		
C211	F-2	L201	G-2	C3918	B-3			C3916	A-3	R004	D-7	CN006	A-2		
C212	E-2			C3921	B-2			C3919	A-3	R005	E-3	CN007	B-2		
C214	F-2			C3923	B-2			C3920	A-3	R006	D-6				
C223	B-2	R212	C-2	C3924	A-3			C3922	A-2	R007	B-5	D001	E-1		
C225	A-2	R215	C-3	C3926	A-3			C3925	A-3	R008	C-6	D005	A-7		
C226	A-2	R218	D-3	C3927	A-2			C3928	B-3	R009	D-7	D006	A-7		
		R219	D-2	C3929	A-3			C3931	B-2	R014	D-7	D008	A-3		
		R220	D-3	C3935	A-3			C3933	B-2	R015	D-6				
CN201	E-3	R227	D-3	C3936	A-2			C3934	A-3	R016	B-5	L001	B-2		
				C5806	A-1			C5810	A-1	R017	C-6	L002	B-6		
D212	A-2	VDR001	D-3	C5807	A-1			C5812	A-1	R020	D-6	L003	A-5		
				C5808	B-1					R021	A-6				
IC201	F-2			C5809	B-1			CN5801	A-1	R022	C-5	Q002	C-6		
				C5813	A-1			CN5802	A-2	R023	D-7	Q003	C-6		
J201	B-3			C5814	B-1			CN5803	A-2	R024	D-5				
J202	D-3			C5815	B-1			CN5804	B-3	R025	B-6	R010	C-6		
				C5816	B-1					R026	C-5	R011	C-6		
R201	D-2			C5817	A-1			D3903	B-3	R027	C-7	R012	C-6		
R202	D-2			C5818	B-1			D3904	B-2	R030	B-6	R013	C-6		
R203	D-2			C5819	B-1			D5806	A-1	R031	D-4	R019	C-6		
R204	D-2			C5820	A-1			D5807	B-1	R032	B-7	R029	A-6		
R205	E-2			C5821	A-1					R038	B-6	R043	A-3		
R206	G-3			C5822	A-1			F3900	B-2	R039	D-4	R044	A-2		
R207	G-3			C5823	B-1					R040	A-7	R045	A-3		
R208	F-3			C5824	A-1			L3900	B-3	R052	B-5	R048	A-3		
R209	F-3			C5825	B-1			L3901	B-3	R053	B-5	R051	A-2		
R211	F-3			C5826	A-2					R054	C-1				
R213	C-3			C5827	B-1			R3901	B-2						
R214	C-2			C5829	B-1			R3902	B-2	S001	C-6				
R217	C-3			C5830	A-2			R3903	B-3	S002	B-5				
R224	A-2			C5832	A-2			R3904	B-3	S003	D-6				
R225	A-2			C5833	A-2			R3905	A-3	S004	B-4				
R226	B-2			C5835	B-1			R3906	B-2	S005	C-5				
				C5836	B-1			R3908	B-3	S006	E-7				
SE201	D-2			C5838	A-2			R3909	A-3	S007	D-6				
SE202	C-2			C5839	B-2			R3910	A-2	S008	A-5				
				C5840	A-2			R3911	A-3	S009	C-5				
				C5841	A-2			R3917	A-3	S010	D-5				
				C5842	A-1			R3918	A-3	S011	A-6				
				C5843	A-1			R3938	B-2	S012	B-4				
				C5844	A-1			R3939	B-2	S013	C-7				
								R5805	A-1	S014	D-4				
				D3900	B-3			R5806	A-1	S015	A-4				
				D3901	B-1			R5835	A-1	S016	C-4				
								R5836	A-1	S017	C-7				
				IC3900	B-3			R5837	A-1	S018	B-6				
				IC3901	A-3			R5840	A-1	S019	B-7				
				IC5801	A-1			R5841	A-1	S020	A-7				
								R5845	A-2						
				L3902	B-3										
				L3903	B-2			VDR801	A-2						
				L3904	B-2			VDR803	A-1						
				L5803	A-2										
				Q3901	B-1										
				Q3902	A-2										
				Q3903	A-2										
				R3900	B-3										
				R3912	B-3										
				R3913	B-3										
				R3916	A-3										
				R3919	A-3										
				R3920	A-3										
				R3921	A-3										
				R3922	A-2										
				R3923	A-2										
				R3924	A-3										
				R3936	A-2										
				H5801	B-1										
				H5802	B-1										
				H5803	B-1										
				H5804	A-2										
				H5807	A-1										
				H5809	A-1										
				H5814	B-1										
				H5815	A-1										
				H5816	B-1										
				H5817	A-1										
				H5818	B-1										
				H5819	A-1										
				H5820	A-2										
				H5821	B-1										
				H5822	B-1										
				H5823	A-2										
				H5824	A-2										
				H5825	B-1										
				H5826	B-1										
				H5827	A-2										
				H5828	B-1										

CF-70 BOARD (SIDE A)		CF-70 BOARD (SIDE B)		CF-72 BOARD (SIDE A)		CF-72 BOARD (SIDE B)		VF-141 BOARD (SIDE A)		VF-141 BOARD (SIDE B)		PD-117 BOARD (SIDE A)		PD-117 BOARD (SIDE B)	
C001	C-2	BH001	A-1	CN009	A-1	BH001	B-1	C4501	A-1	C4503	A-1	C5504	B-4	C5501	D-4
D001	C-2	C009	A-3	D002	C-1	C001	C-3	C4504	A-1	C4507	A-1	C5505	D-5	C5503	D-5
D002	B-2	C010	A-2	D005	B-1	C008	A-3	C4510	A-2	C4508	A-1	C5506	D-5	C5508	B-4
D005	B-2	C011	B-3	D006	B-1	C009	A-2	C4515	A-2	C4509	A-1	C5507	D-5	C5509	C-4
D006	B-2			D009	C-1	C010	A-2	C4516	A-2	C4511	A-2	C5515	B-4	C5510	C-5
		CN001	A-3					C4517	B-2	C4512	A-2	C5516	B-4	C5511	C-4
R001	A-4	CN002	C-1	R001	B-1	CN001	A-3	C4521	B-2	C4513	B-2	C5520	C-5	C5512	C-4
R002	A-3	CN003	C-2	R002	A-1	CN002	C-1	C4524	B-2	C4514	B-2	C5521	C-3	C5513	C-5
R003	A-4	CN004	A-1	R003	B-1	CN003	C-3	C4527	A-2	C4518	B-2	C5522	C-3	C5514	B-4
R004	A-4	CN005	B-1	R004	A-1	CN004	B-1	CN4502	A-2	C4519	B-2	C5523	A-4	C5517	B-5
R005	A-3	CN006	A-2	R005	B-1	CN005	B-1			C4520	B-2	C5524	C-4	C5518	B-5
R006	B-4	CN007	A-2	R006	B-1	CN006	A-2	D4502	A-2	C4523	A-2	C5528	C-4	C5519	B-4
R007	A-3	CN008	B-1	R007	A-1	CN008	B-2	D4503	B-2	C4526	B-1	C5530	B-5	C5527	C-5
R008	B-4			R008	B-1			D4504	B-2	C4527		C5531	A-5	C5529	B-4
R009	C-4	D008	A-3	R009	A-1	D001	C-3			CN4501	A-1	C5603	C-2	C5602	C-2
R014	B-4	D009	C-3	R014	A-1	D008	A-3	FB4505	A-1			C5607	A-1	C5604	B-2
R015	B-4			R015	C-1					FB4502	B-2	CN5501	A-5	C5605	A-2
R016	A-3	L001	A-2	R016	A-1	L001	A-3	IC4502	A-2	FB4505		CN5502	C-5	C5606	A-2
R017	B-3	L002	A-2	R017	B-1	L002	A-2					CN5604	A-1	C5608	C-2
R020	C-4	L003	B-3	R020	C-1	L003	A-2	L4501	A-1	IC4501	A-2	CN5701	D-2	C5704	C-3
R021	A-3			R021	A-1			L4504	A-2			CN5702	D-5	D5503	B-4
R022	B-3	Q002	B-3	R022	B-1	Q002	B-3			R4513	B-2	CN5703	D-1	D5601	A-2
R023	B-4	Q003	B-3	R024	C-2	Q003	B-3	Q4504	A-2	R4515	A-2	CN5704	D-3	D5602	A-1
R024	C-3			R025	A-2	Q007	B-2			R4516	A-2	CN5705	D-3		
R025	A-3	R010	B-3	R026	B-2			R4505	B-1	R4517	A-2			FB5503	C-4
R026	B-3	R011	B-3	R030	A-2	R010	B-3	R4507	A-1	R4518	A-2	D5502	B-4		
R027	B-4	R012	B-3	R031	B-2	R011	B-3	R4508	A-2	R4520	A-2			IC5501	C-4
R030	A-3	R013	B-3	R040	A-2	R012	B-3	R4522	A-2	R4521	A-2	FB5502	C-4	IC5601	B-3
R031	B-3	R019	B-4	R041	B-2	R013	B-3	R4524	B-2	R4526	B-2			IC5602	A-2
R033	A-4	R029	B-2			R019	B-3	R4525	B-2	R4527	A-2	IC5502	B-4	IC5701	C-3
R040	A-4	R050	A-3	S001	B-1	R029	A-2	R4529	B-2	R4528	A-2	IC5503	B-4		
R041	B-3	R051	A-2	S002	A-1	R045	B-2	R4530	B-1					L5501	D-4
R042	A-4	R052	A-3	S003	B-1	R046	B-2	R4534	A-1			L5505	B-4	L5504	B-4
R045	A-2	R053	A-3	S004	A-2	R047	B-2	R4542	B-1			L5601	A-2		
R046	A-2	R054	B-1	S005	B-1	R050	B-1	R4543	B-2					Q5501	B-4
R047	A-2			S007	B-1	R051	B-2	R4544	A-1			Q5502	C-4	Q5601	B-3
				S008	A-1	R052	A-3					Q5503	B-5	Q5602	B-2
S001	B-4			S009	B-1	R053	A-3					Q5504	B-5	Q5603	A-2
S002	A-3			S010	B-1	R054	C-1					Q5505	B-5	Q5604	A-2
S003	B-4			S011	A-1							Q5506	B-5		
S004	A-3			S012	B-2									R5501	D-5
S005	B-3			S014	C-2							R5512	B-4	R5503	D-4
S006	B-4			S015	A-2							R5513	B-4	R5504	B-4
S007	C-4			S016	B-2							R5516	C-5	R5505	C-5
S008	A-3			S019	A-1							R5517	B-5	R5506	C-4
S009	B-3											R5521	B-5	R5507	C-4
S010	C-3											R5553	B-5	R5508	C-4
S011	A-4											R5559	B-4	R5509	C-4
S012	B-3											R5562	B-5	R5510	C-4
S013	B-4											R5563	B-5	R5511	C-4
S014	C-3											R5564	B-5	R5514	B-5
S015	A-3											R5565	B-5	R5515	A-5
S016	B-3											R5566	A-5	R5518	B-5
S017	A-4											R5567	B-5	R5519	A-4
S019	A-4											R5568	C-3	R5520	A-4
S020	A-4											R5569	C-5	R5522	A-5
S021	A-4											R5702	C-5	R5523	B-5
														H5524	B-5
												T5601	B-1	R5525	B-5
														R5551	B-4
														R5557	D-4
														R5560	B-4
														R5608	B-3
														R5609	B-3
														R5610	B-2
														R5611	A-2
														R5612	A-2
														R5613	B-2
														R5614	B-3
														R5616	A-2
														R5617	A-2
														R5618	A-2
														R5704	A-5
														R5706	B-5
														R5707	D-5
														R5708	D-5
														R5711	D-3
														R5712	C-3
														R5714	D-3
														S5701	A-5
														S5702	B-5
														S5703	C-5
														S5704	D-5

PD-118 BOARD
(SIDE A)

C5501	A-2	R5524	A-3
C5503	B-3	R5525	A-3
C5504	A-3	R5551	A-3
C5505	B-3	R5553	B-3
C5506	B-3	R5557	B-3
C5507	B-3	R5559	B-3
C5508	A-3	R5560	A-3
C5509	B-2	R5562	A-3
C5510	B-2	R5563	A-3
C5511	A-2	R5564	A-3
C5512	A-2	R5565	A-3
C5513	B-2	R5566	A-3
C5514	B-2	R5567	A-3
C5515	A-2	R5568	A-3
C5516	A-2	R5569	B-3
C5517	B-2	R5608	A-1
C5518	B-2	R5609	B-2
C5519	B-2	R5610	A-1
C5520	B-3	R5611	A-1
C5521	A-3	R5612	A-1
C5522	A-3	R5613	A-1
C5523	A-3	R5614	A-1
C5524	A-3	R5616	A-1
C5527	B-3	R5617	A-1
C5528	B-3	R5618	A-2
C5529	A-3	R5702	B-3
C5530	A-3	R5704	B-3
C5531	A-3	R5706	B-3
C5602	B-1	R5707	B-3
C5603	B-1	R5708	B-3
C5604	A-1	R5712	A-2
C5605	A-1	R5714	B-3
C5606	A-1		
C5607	A-1	T5601	A-1
C5704	A-2		

CN5501	A-3
CN5502	B-3
CN5604	A-1
CN5701	B-1
CN5702	B-3
CN5703	B-1
CN5704	B-2
CN5705	B-2
CN5707	B-3

D5502	A-2
D5503	B-3
D5601	A-1
D5702	B-3

IC5501	B-2
IC5502	A-3
IC5503	A-3
IC5601	B-1
IC5602	A-1
IC5701	A-2

L5501	B-2
L5502	B-2
L5503	B-1
L5504	B-1
L5505	A-2
L5601	B-1

Q5501	A-3
Q5502	A-3
Q5503	A-3
Q5504	A-3
Q5505	A-3
Q5506	A-3
Q5601	B-2
Q5602	A-1
Q5603	A-1
Q5604	A-1

R5501	B-3
R5503	B-3
R5504	A-3
R5505	B-3
R5506	A-2
R5507	A-2
R5508	A-2
R5509	A-2
R5510	A-2
R5511	A-2
R5512	A-2
R5513	A-2
R5514	A-3
R5515	A-3
R5516	B-3
R5517	A-3
R5518	A-3
R5519	A-2
R5520	A-2
R5521	A-3
R5522	A-3
R5523	A-3

SECTION 5 ADJUSTMENTS

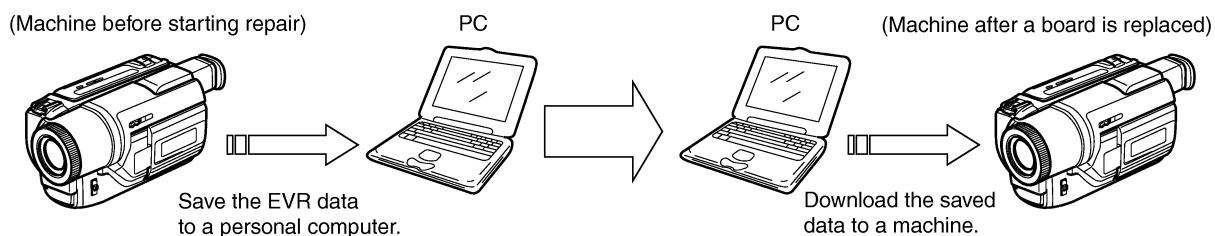
1. Before starting adjustment

EVR Data Re-writing Procedure When Replacing Board

The data that is stored in the repair board, is not necessarily correct.
Perform either procedure 1 or procedure 2 or procedure 3 when replacing board.

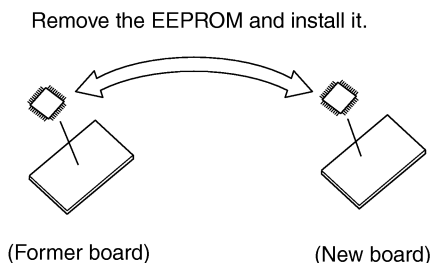
Procedure 1

Save the EVR data of the machine in which a board is going to be replaced. Download the saved data after a board is replaced.



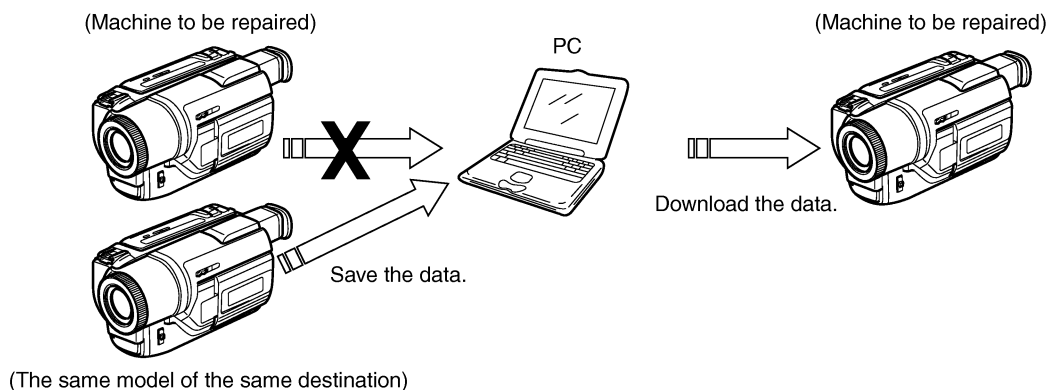
Procedure 2

Remove the EEPROM from the board of the machine that is going to be repaired. Install the removed EEPROM to the replaced board.



Procedure 3

When the data cannot be saved due to defective EEPROM, or when the EEPROM cannot be removed or installed, save the data from the same model of the same destination, and download it.



After the EVR data is saved and downloaded, check the respective items of the EVR data.
(Refer to page 5-3 for the items to be checked)

- **Adjusting items when replacing main parts**

Adjustment Section	Adjustment	Replaced part																										
		Block replacement						Mounted part replacement																				
		Lens device	Mechanism deck	B/W CRT EVF block V901 (*1) (Picture tube)	LCD EVF block LCD903 (*2) (LCD panel)	LCD block LCD901 (LCD panel)	LCD block ND901 (Back light)	Mechanism deck M901 (Drum assembly)	Mechanism deck M902 (Capstan motor)	CD-242/244/266/267/270/271 board IC101/151 (CCD imager)	SE-104/112/114 board SE201/202 (PITCH, YAW sensor)	VF-129 board IC901 (*1) (CRT driver)	VF-129 board T901 (*1) (FBT)	VF-141 board IC4501 (*2) (RGB driver)	VF-141 board IC4502 (*2) (Timing generator)	LB-62 board ND4601 (*2) (Back light)	PD-117/118 board IC5501 (RGB driver)	PD-117/118 board IC5502 (Timing generator)	VC-235 board IC1502 (S/H, AGC, A/D CONV.)	VC-235 board IC3103 (REC/PB AMP)	VC-235 board IC3101 (EQ, A/D CONV., PLL)	VC-235 board IC1501 (Timing generator)	VC-235 board IC3701 (VIDEO IN/OUT)	VC-235 board IC3301 (VIDEO DSP, D/A CONV.)	VC-235 board IC2201 (Y/C process)	MI-37 board IC3901 (IR transmitter)	VC-235 board IC5701 (AUDIO IN/OUT)	PC-777 board IC105 (Digital still control)
Initialization of 7, 8, C, D, E, F page data and Modification of B page	Initialization of 8, C, D page data Initialization of 7, E, F page data Modification of B page data																											●
Camera	HALL adj.	●																										
	Flange back adj.	●							●																			
	Optical axis adj.	●							●																			
	Color reproduction adj.								●																			
	AWB & LV standard data input								●										●	●								
	Auto white balance adj.								●										●									
	Angular velocity sensor sensitivity preset									●									●									
B/W CRT EVF (*1)	Centering adj.			●							●	●																
	Focus adj.			●							●	●																
	Aberration adj.			●							●	●																
	Horizontal amplitude adj.			●							●	●																
	Vertical amplitude adj.			●							●	●																
	Brightness adj.			●							●	●																
LCD EVF (*2)	EVF initial data input																											
	VCO adj.												●	●														
	RGB AMP adj.												●															
	Contrast adj.												●												●			
	Backlight consumption current adj.														●													
	White balance adj. (*3)				●								●		●									●				
LCD	LCD initial data input																											
	VCO adj.															●	●											
	RGB AMP adj.															●	●							●				
	Contrast adj.															●	●							●				
	COM AMP adj.															●	●							●				
	V-COM adj.					●										●	●							●				
	White balance adj.					●	●									●								●				
System control	Node unique ID No. input																											
	Battery end adj.																											
Servo, RF	Reel FG adj.		●																									
	Switching position adj.		●					●																				
	AGC center level adj.																		●	●								
	APC & AEQ adj.																		●	●								
	PLL f ₀ & LPF f ₀ adj.																		●	●								
	Hi8/Standard8 switching position adj.		●					●																				
	CAP FG duty adj.		●					●																				
Video	27MHz/36MHz origin oscillation adj.																					●						
	Chroma BPF f ₀ adj.																						●					
	S VIDEO OUT Y level adj.																						●		●			
	S VIDEO OUT chroma level adj.																							●		●		
	Hi8/Standard8 AFC f ₀ adj.																									●		
IR	IR video carrier frequency adj.																										●	
	IR video deviation adj.																									●		
	IR audio deviation adj.																									●		
Audio	Hi8/Standard8 AFM BPF f ₀ adj.																											●
	Hi8/Standard8 AFM 1.5MHz deviation adj.																											●
	Hi8/Standard8 AFM 1.7MHz deviation adj.																											●
Mechanism	Tape path adj.		●					●	●																			

Table 5-1-1(1)

• Adjusting items when replacing a board or EEPROM

When replacing a board or EEPROM, adjust the items indicated by ● in the following table.

Adjustment Section	Adjustment	Replaced part									
		Board replacement									
		(COMPLETE)	(COMPLETE)	(COMPLETE)	(COMPLETE)	(COMPLETE)	(COMPLETE)	(COMPLETE)	(EEP ROM)	(EEP ROM)	
Initialization of 7, 8, C, D, E, F page data and Modification of B page	Initialization of 8, C, D page data	SE-104/112/114 board	VF-129 board (*1)	VF-141 board (*2)	LB-62 board (*2)	PD-117/118 board	MI-37 board	PC-77 board	VC-235 board	VC-235 board IC-4502	VC-235 board IC-4901
	Initialization of 7, E, F page data										
	Modification of B page data										
Camera	HALL adj.								●	●	●
	Flange back adj.								●	●	●
	Optical axis adj.								●	●	●
	Color reproduction adj.								●	●	●
	AWB & LV standard data input								●	●	●
	Auto white balance adj.								●	●	●
	Angular velocity sensor sensitivity preset	●							●	●	●
B/W CRT EVF (*1)	Centering adj.	●									
	Focus adj.	●									
	Aberration adj.	●									
	Horizontal amplitude adj.	●									
	Vertical amplitude adj.	●									
	Brightness adj.	●									
LCD EVF (*2)	EVF initial data input								●	●	
	VCO adj.		●						●	●	
	RGB AMP adj.		●						●	●	
	Contrast adj.		●						●	●	
	Backlight consumption current adj.			●					●	●	
	White balance adj. (*3)		●	●					●	●	
LCD	LCD initial data input								●	●	
	VCO adj.				●				●	●	
	RGB AMP adj.				●				●	●	
	Contrast adj.				●				●	●	
	COM AMP adj.				●				●	●	
	V-COM adj.				●				●	●	
	White balance adj.				●				●	●	
System control	Node unique ID No. input								●	●	
	Battery end adj.								●	●	
Servo, RF	Reel FG adj.								●	●	
	Switching position adj.								●	●	
	AGC center level adj.									●	
	APC & AEQ adj.									●	
	PLL f ₀ & LPF f ₀ adj.									●	
	Hi8/Standard8 switching position adj.								●	●	
	CAP FG duty adj.								●	●	
Video	27MHz/36MHz origin oscillation adj.										●
	Chroma BPF f ₀ adj.									●	
	S VIDEO OUT Y level adj.									●	
	S VIDEO OUT chroma level adj.									●	
	Hi8/Standard8 AFC f ₀ adj.										●
IR	IR video carrier frequency adj.					●		●	●	●	
	IR video deviation adj.					●		●	●	●	
	IR audio deviation adj.					●		●	●	●	
Audio	Hi8/Standard8 AFM BPF f ₀ adj.										●
	Hi8/Standard8 AFM 1.5MHz deviation adj.										●
	Hi8/Standard8 AFM 1.7MHz deviation adj.										●
Mechanism	Tape path adj.										

Note 1:

*1: CRT EVF model only

(DCR-TRV320/TRV320E: E, HK, AUS, CN)
(DCR-TRV320P/TRV420E: CN)
(DCR-TRV520/TRV520E: E, HK, AUS, CN, JE)
(DCR-TRV520P)

*2: LCD EVF model only

(DCR-TRV320E: AEP, UK, EE, NE, RU)
(DCR-TRV420E: AEP)
(DCR-TRV520E: AEP)
(DCR-TRV525/TRV620E/TRV720/TRV720E)

*3: COLOR LCD EVF model only

(DCR-TRV525/TRV620E/TRV720/TRV720E)

Note 2:

2.5 LCD model: DCR-TRV320/TRV320E/
TRV320P

3 LCD model: DCR-TRV420E/TRV525

3.5 LCD model: DCR-TRV520/TRV520E/
TRV520P/TRV620E

4 LCD model: DCR-TRV720/TRV720E

	SE board	PD board
2.5 LCD model	SE-104	PD-117
3/3.5 LCD model	SE-112	PD-118
4 LCD model	SE-114	PD-118

Note 3:

720H model: DCR-TRV320/TRV320P/
TRV520/TRV520P/TRV525/
TRV720

960H model: DCR-TRV320E/TRV420E/
TRV520E/TRV620E/TRV720E

		CD board
720H model	2.5 LCD model	CD-242
	3/3.5 LCD model	CD-266
	4 LCD model	CD-270
960H model	2.5 LCD model	CD-244
	3/3.5 LCD model	CD-267
	4 LCD model	CD-271

Table 5-1-1(2)

5-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Color monitor
- Vectorscope
- Regulated power supply
- Digital voltmeter
- Frequency counter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.4	J-6080-806-A	White balance check
	ND filter 0.1	J-6080-807-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjustment remote commander (RM-95 upgraded). (Note 1)	J-6082-053-B	
J-6	Siemens star chart	J-6080-875-A	For checking the flange back
J-7	Clear chart for pattern box	J-6080-621-A	
J-8	Multi CPC jig	J-6082-311-A	For adjusting the LCD block
J-9	CPC-13 jig	J-6082-443-A	For adjusting the video section
J-10	Power cord (Note 2)	J-6082-223-A	For connecting the battery terminal and DC power supply
J-11	Extension cable (16P, 0.5 mm)	J-6082-357-A	For extension between the CD-242/266/270 board (CN101) and the VC-235 board (CN1501)(720H model) For extension between the CD-244/267/271 board (CN151) and the VC-235 board (CN1501)(960H model)
J-12	Extension cable (100P, 0.5 mm)	J-6082-352-A	For extension between the PC-77 board (CN802) and the VC-235 board (CN1104)
J-13	IR receiver jig	J-6082-383-A	For adjusting the IR transmitter
J-14	Mini pattern box	J-6082-353-B	For adjusting the flange back
J-15	Camera table	J-6082-384-A	For adjusting the flange back

Note 1: If the micro processor IC in the adjustment remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

Note 2: Connect the adjustment remote commander to the LANC jack, and set to HOLD switch to the "ADJ" side.

Note 3: 720H model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720
960H model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

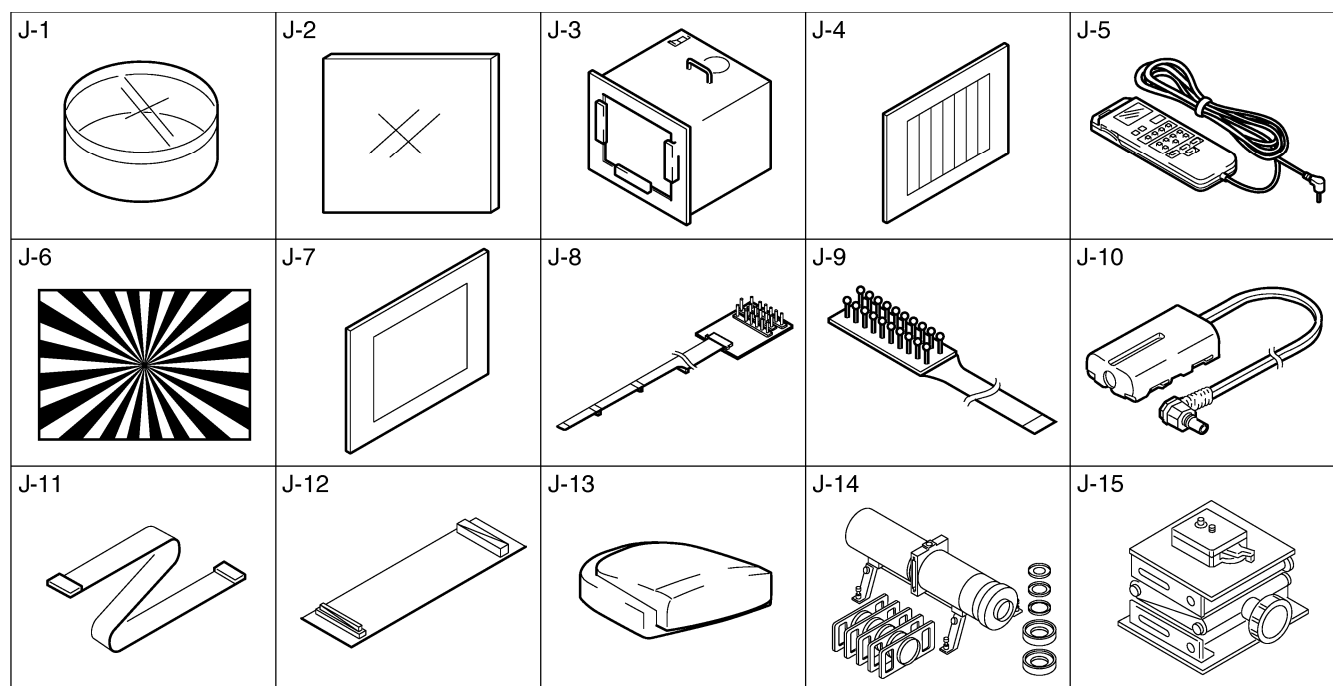


Fig. 5-1-1

1-1-2. Preparations

Note 1: For details of how remove the cabinet and boards, refer to “2. DISASSEMBLY”.

Note 2: When performing only the adjustments, the lens block and boards need not be disassembled.

Note 3: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P

3 LCD model: DCR-TRV420E/TRV525

3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/
TRV620E

4 LCD model: DCR-TRV720/TRV720E

	CF board
2.5 LCD model	CF-69
3/3.5 LCD model	CF-70
4 LCD model	CF-72

- 1) Connect the equipment for adjustments according to Fig. 5-1-3, 4.
- 2) The front panel block (MI-37 board, focus dial, microphone unit) must be assembled because the focus ring is used for adjustments.

Note 4: As removing the cabinet (R) (removing the VC-235 board CN1105) means removing the lithium 3V power supply (CF-69/70/72 board BH001), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time, etc.) will be lost. Before removing, note down the self-diagnosis data and data on history use (data of page: 2, address: A2 to AA). (Refer to “SELF-DIAGNOSIS FUNCTION” for the self-diagnosis data, and to “5-4. Service Mode” for the data on the history use.)

Note 5: Setting the “Forced Camera Power ON” Mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the camera power to be turned on with the power switch (SS-10000 block) removed. After completing adjustments, be sure to exit the “Forced Camera Power ON Mode”.

Note 6: Exiting the “Forced Camera Power ON” Mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

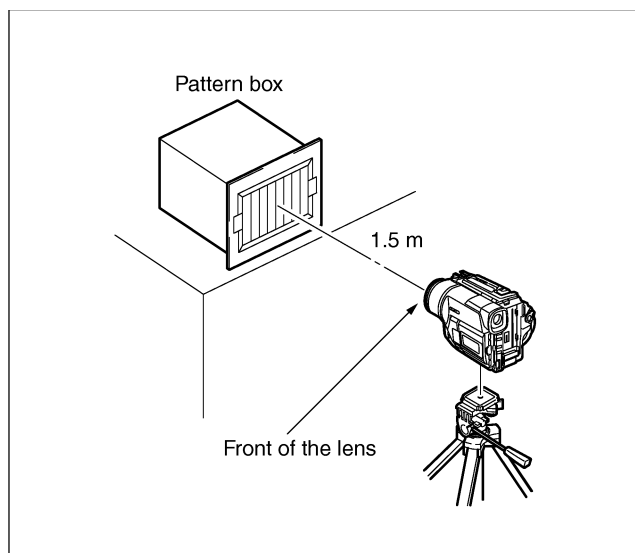


Fig. 5-1-2

Note 1: Press the battery switch of the battery terminal using adhesive tape, etc.
Note 2: 720H model: DCR-TRV320/TRV320P
 960H model: DCR-TRV320E

Regulated power supply (Note 1)
 $(8.4 \pm 0.1 \text{ Vdc})$

Color monitor
 Vector scope
 Terminated 75 Ω

Video (yellow)

Audio L (white)

Audio R (red)

Adjustment remote commander

Front panel block

Need not connected

A/V jack

LANC jack

MI-37 board CN5804

SE-104 board CN202

To PD-117 board CN5701

To CF-69 board CN001

Cabinet (R)

CN5703

CN5704

CN5702

CN5701

CD-242 board CN101 (720H model)
 or
 CD-244 board CN151 (960H model)

Lens block

Extension cable (16P, 0.5 mm)
 (J-6082-357-A)

CN1551

CN1101

CN1501

CN1108

CN1105

VC-235 board

CN1104

CN3101

CN4402

CN4403

CN4404

CN1113

CN253

CN252

FU-138 board

CN802

PC-77 board

CN801

Extension cable (100P, 0.5 mm)
 (J-6082-352-A)

Cabinet (L)

FP-162 FLEXIBLE

Multi CPC jig (J-6082-311-A)

Must be connected when performing the LCD system adjustment.

Battery terminal

DC IN jack

Battery switch

Must be connected when performing the video system adjustment.

CPC-13 jig (J-6082-443-A)

5-6

3/3.5 LCD model

Note 1: Press the battery switch of the battery terminal using adhesive tape, etc.

Note 2: 720H model: DCR-TRV520/TRV520P/TRV525

960H model: DCR-TR420E/TRV520E/TRV620E

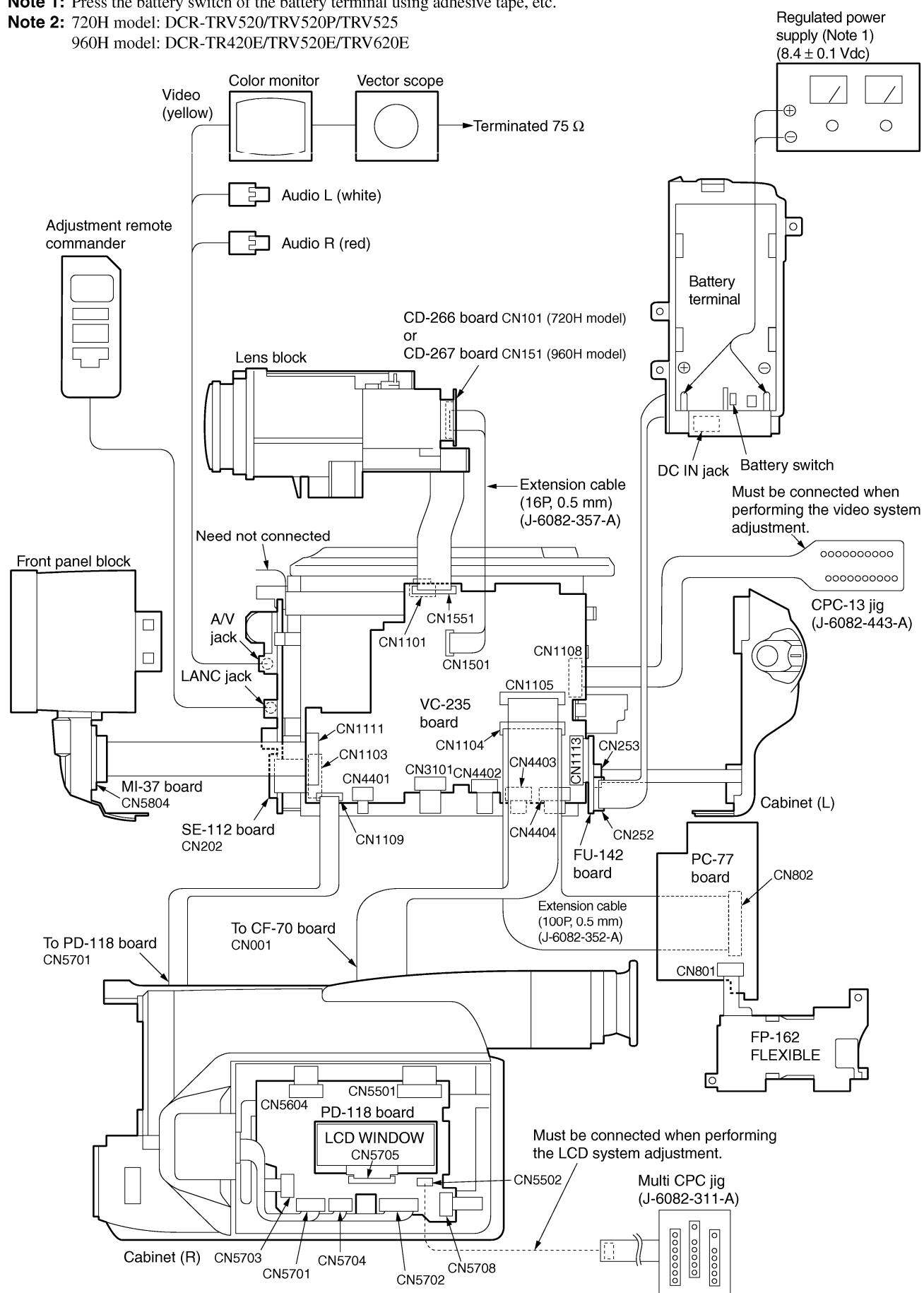


Fig. 5-1-4

4 LCD model

Note 1: Press the battery switch of the battery terminal using adhesive tape, etc.

Note 2: 720H model: DCR-TRV720

960H model: DCR-TR720E

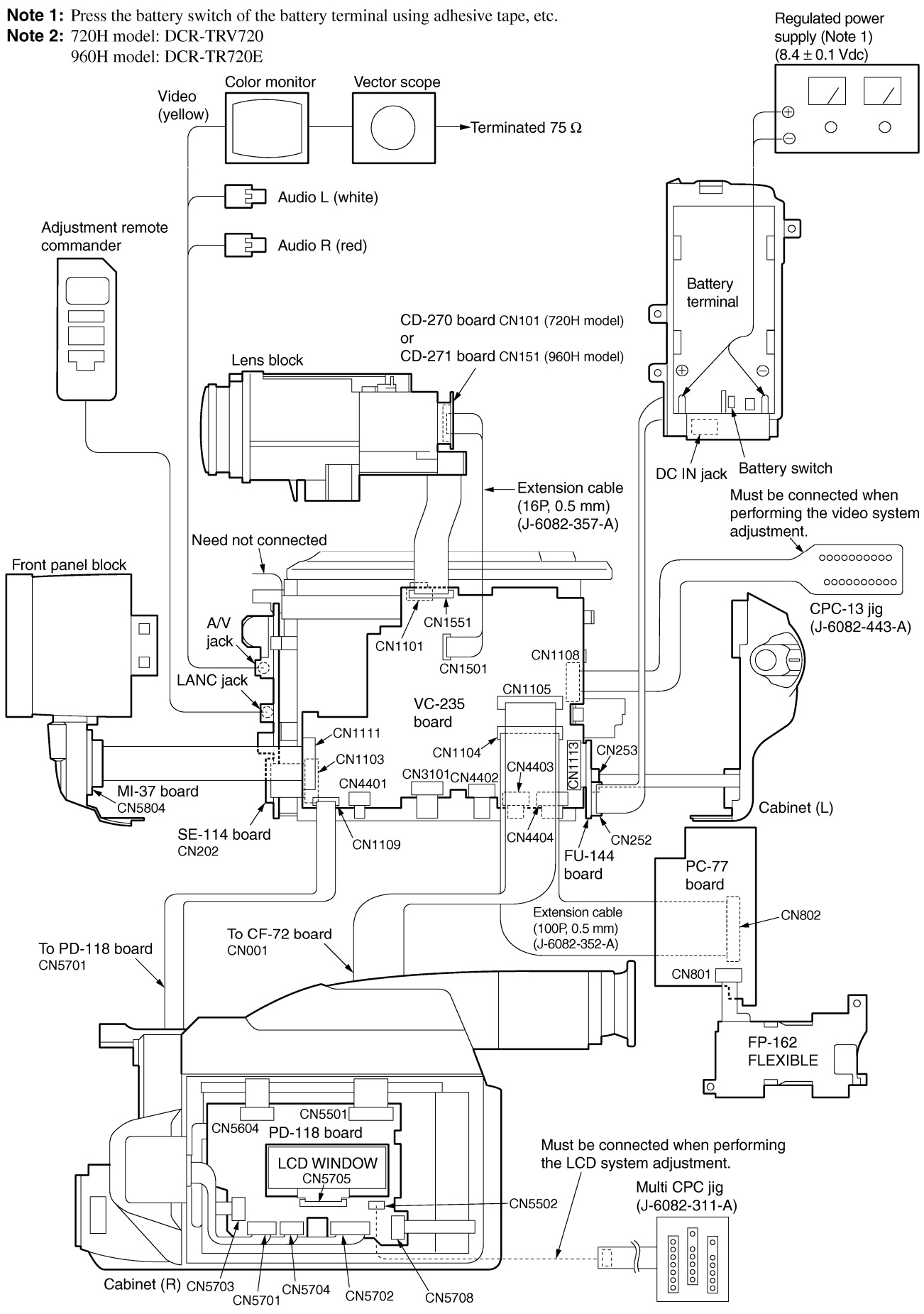


Fig. 5-1-5

1-1-3. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

- | | | | |
|---|-----------|---|--------|
| 1. POWER switch (SS-10000 block) | CAMERA | 8. FOCUS switch (MF-10000) | MANUAL |
| 2. NIGHT SHOT switch (Lens block) | OFF | 9. PROGRAM AE (CF-69/70, KP-009 board) | Auto |
| 3. DEMO MODE (Menu display) | OFF | 10. BACK LIGHT (CF-69/70, KP-009 board) | OFF |
| 4. DIGITAL ZOOM (Menu display) | OFF | 11. PICTURE EFFECT (CF69/70/72 board) | OFF |
| 5. STEADY SHOT (Menu display) | OFF | 12. DIGITAL EFFECT (CF-69/70/72 board) | OFF |
| 6. DISPLAY (Menu display) | V-OUT/LCD | 13. 16 : 9 WIDE (MENU display) | OFF |
| 7. DISPLAY (CF-69/70/72 board) | ON | | |

2. Order of Adjustments

Basically carry out adjustments in the order given.

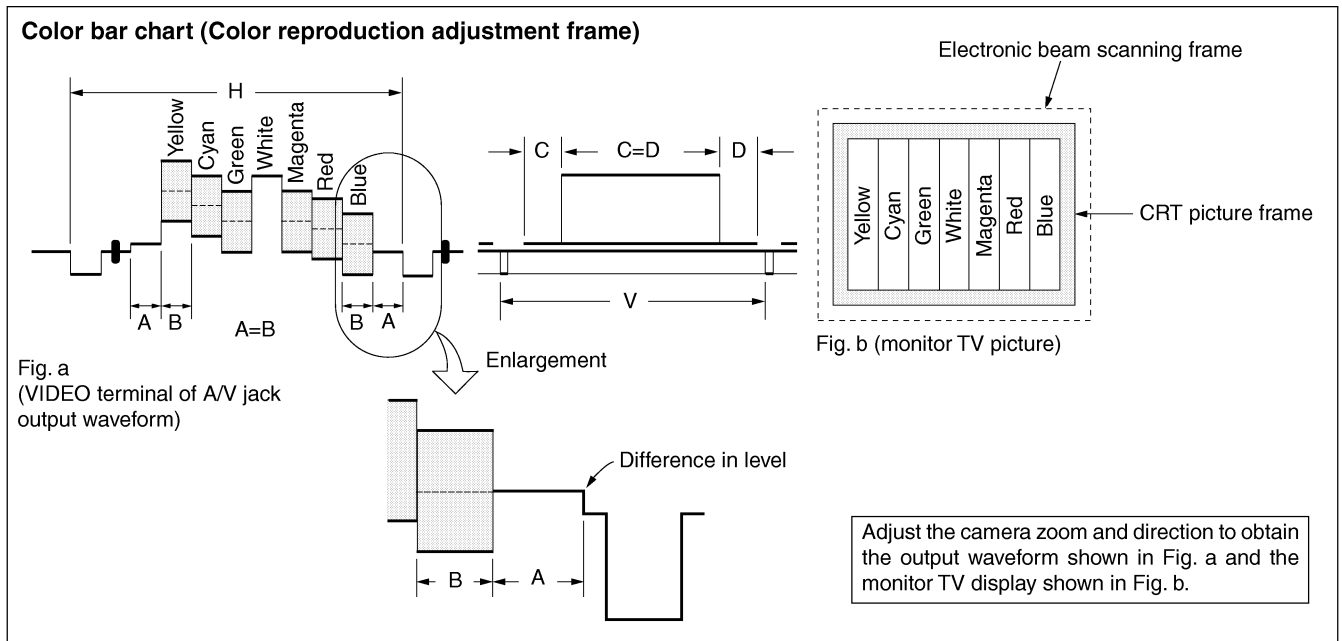


Fig. 5-1-6

3. Subjects

- 1) Color bar chart (Color reproduction adjustment frame)
When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 5-1-6. (Color reproduction adjustment frame)
- 2) Clear chart (Color reproduction adjustment frame)
Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time)
- 3) Chart for flange back adjustment
Join together a piece of white A0 size paper (1189mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 5-1-7.

Note: Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

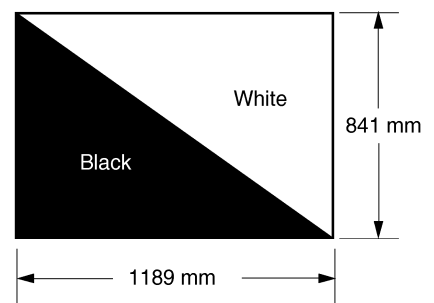


Fig. 5-1-7

1-2. INITIALIZATION OF 7, 8, C, D, E, F PAGE DATA AND MODIFICATION OF B PAGE DATA

1-2-1. INITIALIZATION OF 8, C, D PAGE DATA

1. Initializing the 8, C, D Page Data

Note 1: If “Initialization of Pages 8, C, D” is executed, all data on pages 8, C and D are initialized. (Only an individual page cannot be initialized)

Note 2: If the 8, C, D page data has been initialized, “Modification of 8, C, D Page Data” and following adjustments need to be performed again.

- 1) LCD electronic viewfinder system adjustment
- 2) LCD system adjustment
- 3) System control system adjustment
- 4) Servo and RF system adjustment
- 5) “Chroma BPF f₀ adjustment”, “S VIDEO OUT Y level adjustment” and “S VIDEO OUT chroma level adjustment” of the video system adjustments.

Adjusting Page	8
Adjusting Address	00 to FF
Adjusting Page	C
Adjusting Address	10 to FF
Adjusting Page	D
Adjusting Address	10 to FF

Initializing Method:

- 1) Select page: 0, address: 01, and set data: 80.
- 2) Select page: 3, address: 81, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 80, set data: 0A, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 3, address: 80, and check that the data changes to “1A”.
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Perform “Modification of 8, C, D Page Data”.

2. Modification of 8, C, D Page Data

If the 8, C, D page data has been initialized, change the data of the “Fixed data-2” address shown in the following table by manual input.

Modifying Method:

- 1) Before changing the data, select page: 0, address: 01, and set data: 01.
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note : If copy the data built in the different model, the camcorder may not operate.
- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of D Page data

- 1) Select page: 2, address: 00, and set data: 29.
- 2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

3. 8 Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, C, D Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 8, C, D Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 98			Fixed data-1 (Initialized data)
99			Fixed data-2
9A to A2			Fixed data-1 (Initialized data)
A3			Fixed data-2
A4 to A6			Fixed data-1 (Initialized data)
A7			Fixed data-2
A8			
A9 to FF			Fixed data-1 (Initialized data)

4. C Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, C, D Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 8, C, D Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	EE	EE	Switching position adj.
11	00	00	
12	00	00	
13	00	00	
14 to 16			Fixed data-1 (Initialized data)
17	E0	E0	Reel FG adj.
18	25	25	APC & AEQ adj.
19	25	25	
1A			Fixed data-1 (Initialized data)
1B	25	25	APC & AEQ adj.
1C	25	25	
1D			Fixed data-1 (Initialized data)
1E	25	25	AGC center level adj.
1F	3E	3E	PLL f ₀ & LPF f ₀ adj.
20	3E	3E	
21	CA	CA	APC & AEQ adj.
22	99	99	PLL f ₀ & LPF f ₀ adj.
23, 24			Fixed data-1 (Initialized data)
25	88	88	S VIDEO OUT Y level adj.
26	E3	E3	S VIDEO OUT chroma level adj.
27	A1	A1	
28	04	04	Chroma BPF f ₀ adj.
29	20	20	PLL f ₀ & LPF f ₀ adj.
2A, 2B			Fixed data-1 (Initialized data)
2C	03	03	APC & AEQ adj.
2D, 2E			Fixed data-1 (Initialized data)
2F			Fixed data-2
30	E0	E0	Reel FG adj.
31 to 41			Fixed data-1 (Initialized data)
42			Fixed data-2
43 to 83			Fixed data-1 (Initialized data)
84			Fixed data-2
85			Fixed data-1 (Initialized data)
86			Fixed data-2
87, 88			Fixed data-1 (Initialized data)
89			Fixed data-2
8A to 91			Fixed data-1 (Initialized data)
92			Fixed data-2
93 to 99			Fixed data-1 (Initialized data)
9A			Fixed data-2
9B to A4			Fixed data-1 (Initialized data)
A5			Fixed data-2
A6			
A7 to D5			Fixed data-1 (Initialized data)

Address	Initial value		Remark
	NTSC	PAL	
D6			Fixed data-2
D7			
D8			
D9			
DA			
DB			
DC			
DD			
DE			
DF			
E0			
E1 to E5			Fixed data-1 (Initialized data)
E6			Fixed data-2
E7			Fixed data-1 (Initialized data)
E8	08	08	Node unique ID No. input
E9	00	00	
EA	46	46	
EB	01	01	
EC	01	01	
ED	00	00	
EE	00	00	
EF	00	00	
F0 to F3			Fixed data-1 (Initialized data)
F4	00	00	Emergency memory address
F5	00	00	
F6	00	00	
F7	00	00	
F8	00	00	
F9	00	00	
FA	00	00	
FB	00	00	
FC	00	00	
FD	00	00	
FE	00	00	
FF	00	00	

5. D Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, C, D Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 8, C, D Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Test mode
11, 12			Fixed data-1 (Initialized data)
13			Fixed data-2
14			
15 to 1A			Fixed data-1 (Initialized data)
1B			Fixed data-2
1C			Fixed data-1 (Initialized data)
1D			Fixed data-2
1E			
1F			
20 to 26			Fixed data-1 (Initialized data)
27			Fixed data-2
28			
29 to 2B			Fixed data-1 (Initialized data)
2C			Fixed data-2
2D to 2F			Fixed data-1 (Initialized data)
30			Fixed data-2
31 to 42			Fixed data-1 (Initialized data)
43			Fixed data-2
44			
45			
46, 47			Fixed data-1 (Initialized data)
48	90	90	Battery end adj.
49	98	98	
4A to 4C			Fixed data-1 (Initialized data)
4D			Fixed data-2
4E to 50			Fixed data-1 (Initialized data)
51			Fixed data-2
52			Fixed data-1 (Initialized data)
53			Fixed data-2
54 to 59			Fixed data-1 (Initialized data)
5A			Fixed data-2
5B			
5C			
5D to 65			Fixed data-1 (Initialized data)
66			Fixed data-2
67			
68			
69			
6A to 83			Fixed data-1 (Initialized data)
84			Fixed data-2
85, 86			Fixed data-1 (Initialized data)
87			Fixed data-2
88 to 8D			Fixed data-1 (Initialized data)
8E			Fixed data-2
8F			

Address	Initial value		Remark
	NTSC	PAL	
90, 91			Fixed data-1 (Initialized data)
92	80	80	VCO adj. (LCD EVF)
93	–	70	Fixed data-1 (NTSC model) / VCO adj. (LCD EVF) (PAL model)
94			Fixed data-1 (Initialized data)
95	A0	A0	RGB AMP adj. (LCD EVF)
96			Fixed data-1 (Initialized data)
97	80	80	White balance adj. (LCD EVF)
98	80	80	
99	30	30	Contrast adj. (LCD EVF)
9A, 9B			Fixed data-1 (Initialized data)
9C	D0	D0	Backlight consumption current adj. (LCD EVF)
9D	10	10	
9E	10	10	
9F to A1			Fixed data-1 (Initialized data)
A2	80	80	VCO adj. (LCD)
A3	–	70	Fixed data-1 (NTSC model) / VCO adj. (LCD) (PAL model)
A4	80	80	V-COM adj. (LCD)
A5	30/20	30/20	RGB AMP adj. (LCD) (Note 3)
A6			Fixed data-1 (Initialized data)
A7	C0/80	C0/80	COM AMP adj. (LCD) (Note 3)
A8	80	80	White balance adj. (LCD)
A9	80	80	
AA	50/30	50/30	Contrast adj. (LCD) (Note 3)
AB			Fixed data-1 (Initialized data)
AC			Fixed data-2
AD			
AE to B3			Fixed data-1 (Initialized data)
B4			Fixed data-2
B5			
B6			
B7, B8			Fixed data-1 (Initialized data)
B9			Fixed data-2
BA			
BB to C3			Fixed data-1 (Initialized data)
C4			Fixed data-2
C5			Fixed data-1 (Initialized data)
C6			Fixed data-2
C7 to CF			Fixed data-1 (Initialized data)
D0			Fixed data-2
D1			
D2, D3			Fixed data-1 (Initialized data)
D4			Fixed data-2
D5			
D6			
D7			
D8 to FF			Fixed data-1 (Initialized data)

Note 3: LCD TYPE S/LCD TYPE C

1-2-2. INITIALIZATION OF 7, E, F PAGE DATA

1. Initializing the 7, E, F Page Data

Note 1: If “Initialization of Pages 7, E, F” is executed, all data on pages 7, E and F are initialized. (Only an individual page cannot be initialized)

Note 2: If the 7, E, F page data has been initialized, “Modification of 7, E, F Page Data” and following adjustments need to be performed again.

- 1) Camera system adjustments
- 2) “Hi8/standard 8 mm switching position adjustment” and “CAP FG duty adjustment” of the servo & RF system adjustments
- 3) “27 MHz/36 MHz origin oscillation adjustment” and “Hi8/standard 8 mm AFC f₀ adjustment” of the video system adjustment
- 4) IR transmitter adjustments
- 5) Audio system adjustments

Adjusting Page	7
Adjusting Address	00 to FF
Adjusting Page	E
Adjusting Address	00 to FF
Adjusting Page	F
Adjusting Address	10 to FF

Initializing Method:

- 1) Select page: 0, address: 01, and set data: 80.
- 2) Select page: 6, address: 00, and set data: 55 (NTSC) or data: 51 (PAL).
- 3) Select page: 6, address: 01, set data: 55 (NTSC) or data: 51 (PAL), and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 6, address: 02, and check that the data is “01”.
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Perform “Modification of 7, E, F Page Data”.

2. Modification of 7, E, F Page Data

If the 7, E, F page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Modifying Method:

- 1) Before changing the data, select page: 0, address: 01, and set data: 01.
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note: If copy the data built in the different model, the camcorder may not operate.
- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of 7, E, F Page data

- 1) Select page: 2, address: 00, and set data: 29.
- 2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

3. 7 Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 7, E, F Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 7, E, F Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 05			Fixed data-1 (Initialized data)
06			Fixed data-2
07			
08 to FF			Fixed data-1 (Initialized data)

4. E Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 7, E, F Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 7, E, F Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00, 01			Fixed data-1 (Initialized data)
02			Fixed data-2
03			
04			
05			
06, 07			Fixed data-1 (Initialized data)
08			Fixed data-2
09 to 0D			Fixed data-1 (Initialized data)
0E			Fixed data-2
0F			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
1A to 27			Fixed data-1 (Initialized data)
28			Fixed data-2
29 to 33			Fixed data-1 (Initialized data)
34			Fixed data-2
35			Fixed data-1 (Initialized data)
36			Fixed data-2
37			Fixed data-1 (Initialized data)
38			Fixed data-2
39			
3A to 3C			Fixed data-1 (Initialized data)
3D			Fixed data-2
3E to 42			Fixed data-1 (Initialized data)
43			Fixed data-2
44, 45			Fixed data-1 (Initialized data)
46			Fixed data-2
47			
48			
49 to 50			Fixed data-1 (Initialized data)
51			Fixed data-2
52 to 56			Fixed data-1 (Initialized data)
57			Fixed data-2
58 to 5B			Fixed data-1 (Initialized data)
5C			Fixed data-2
5D			
5E			
5F to 71			Fixed data-1 (Initialized data)
72			Fixed data-2
73 to 7B			Fixed data-1 (Initialized data)
7C			Fixed data-2
7D			
7E			

Address	Initial value		Remark
	NTSC	PAL	
7F			Fixed data-1 (Initialized data)
80			Fixed data-2
81			
82 to 8B			Fixed data-1 (Initialized data)
8C			Fixed data-2
8D			
8E			
8F			Fixed data-1 (Initialized data)
90			Fixed data-2
91 to 93			Fixed data-1 (Initialized data)
94			Fixed data-2
95 to FF			Fixed data-1 (Initialized data)

5. F Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 7, E, F Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 7, E, F Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Emergency memory address
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C			Fixed data-2
1D to 23			Fixed data-1 (Initialized data)
24			Fixed data-2
25			Fixed data-1 (Initialized data)
26			Fixed data-2
27 to 2B			Fixed data-1 (Initialized data)
2C			Fixed data-2
2D			Fixed data-1 (Initialized data)
2E			Fixed data-2
2F to 32			Fixed data-1 (Initialized data)
33			Fixed data-2
34 to 37			Fixed data-1 (Initialized data)
38	68	68	HALL adj.
39	80	80	
3A	8D	8D	
3B			Fixed data-2
3C	80	80	AWB & LV standard data input
3D	7A	7A	
3E	2B	2B	
3F	80	80	
40	65	65	
41	80	80	
42	8D	8D	
43	87	87	Auto white balance adj.
44 to 46			Fixed data-1 (Initialized data)
47	33	33	Color reproduction adj.
48			Fixed data-1 (Initialized data)
49	34	34	Color reproduction adj.
4A to 4C			Fixed data-1 (Initialized data)
4D	8C	8C	27 MHz/36 MHz origin oscillation adj.
4E	2E	2E	Flange back adj.
4F	12	12	
50	48	48	
51	F1	F1	
52	18	18	
53	5D	5D	
54	66	66	

Address	Initial value		Remark
	NTSC	PAL	
55	00	00	Flange back adj.
56	19	19	
57	00	00	
58	19	19	
59	00	00	
5A	00	00	
5B	04	04	
5C	00	00	Angular velocity sensor sensitivity data preset
5D	00	00	
5E	69	9C	Optical axis adj.
5F	63	A0	
60	00	00	Flange back adj.
61	00	00	Hi8/Standard8 switching position adj.
62	0A	0A	
63	00	00	CAP FG duty adj.
64	83	83	Hi8/Standard8 AFC f ₀ adj.
65	40	40	Fixed data-1 (Initialized data)
66			Fixed data-2
67			Fixed data-2
68			
69 to 7A			Fixed data-1 (Initialized data)
7B	A6	A6	Hi8/Standard8 AFM 1.5 MHz deviation adj.
7C	94	94	Hi8/Standard8 AFM 1.7 MHz deviation adj.
7D	80	80	Hi8/Standard8 AFM BPF f ₀ adj.
7E	41	41	IR video deviation adj.
7F	33	33	IR audio deviation adj.
80	C7	C7	IR video carrier frequency adj.
81 to 8A			Fixed data-1 (Initialized data)
8B			Fixed data-2
8C to 93			Fixed data-1 (Initialized data)
94			Fixed data-2
95 to 97			Fixed data-1 (Initialized data)
98			Fixed data-2
99 to 9B			Fixed data-1 (Initialized data)
9C			Fixed data-2
9D to 9F			Fixed data-1 (Initialized data)
A0			Fixed data-2
A1 to AA			Fixed data-1 (Initialized data)
AB			Fixed data-2
AC to CA			Fixed data-1 (Initialized data)
CB			Fixed data-2
CC			
CD			
CE			Fixed data-1 (Initialized data)
CF			Fixed data-2
D0 to D2			Fixed data-1 (Initialized data)
D3			Fixed data-2
D4 to D6			Fixed data-1 (Initialized data)
D7	FD	FC	Color reproduction adj.
D8	F4	F2	
D9 to DE			Fixed data-1 (Initialized data)
DF			Fixed data-2

Address	Initial value		Remark
	NTSC	PAL	
E0			Fixed data-1 (Initialized data)
E1			Fixed data-2
E2 to F2			Fixed data-1 (Initialized data)
F3			Fixed data-2
F4, F5			Fixed data-1 (Initialized data)
F6			Fixed data-2
F7 to FF			Fixed data-1 (Initialized data)

1-2-3. MODIFICATION OF B PAGE DATA

1. Modification of B Page Data

When replacing PC-77 board or IC105 of PC-77 board, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Mode	Memory
Adjusting Page	B
Adjusting Address	17 to 1A

Modifying Method:

- Before changing the data, select page: 0, address: 01, and set data: 01.
- New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note : If copy the data built in the different model, the camcorder may not operate.
- When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.

Processing after Completing Modification of B Page data

- Select page: 5, address: 0E, set data: 00, and press the PAUSE button of the adjustment remote commander.
- Select page: 5, address: 01, set data: FB, and press the PAUSE button of the adjustment remote commander.
- Select page: 5, address: 00, set data: 01, and press the PAUSE button of the adjustment remote commander.
- Select page: 5, address: 0E, and check that the data is “01”.
- Select page: 0, address: 01, and set data: 00.

2. B Page Table

Note: Fixed data-2: Modified data. (Refer to “1. Modification of B Page Data”)

Address	Remark
00 to 16	Fixed data-1 (Initialized data)
17	Fixed data-2
18	Fixed data-1 (Initialized data)
19	Fixed data-2
1A	
1B to FF	Fixed data-1 (Initialized data)

1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, Check that the specified values of “27 MHz/36 MHz Origin Oscillation Adjustment”, “S VIDEO OUT Y level Adjustment” and “S VIDEO OUT C level Adjustment” of “VIDEO SYSTEM ADJUSTMENT” are satisfied.

1. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and offset.

Subject	Not required
Measurement Point	Display data of page 1
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	38, 39, 3A
Specified Value	88 to 8C during IRIS OPEN 15 to 19 during IRIS CLOSE

Note: Displayed data of page 1 of the adjustment remote commander.

1 : 00 : XX
 └── Display data

Adjusting method:

- Select page: 0, address: 01, and set data: 01.
- Select page: 6, address: 94, and set data: 8A.
- Select page: 6, address: 95, and set data: 17.
- Select page: 6, address: 01, set data: 6D, and press the PAUSE button of the adjustment remote commander. (The HALL adjustment is performed and the adjustment data is stored in page: F, address: 38, 39 and 3A)
- Select page: 6, address: 02, and check that the data is “01”.
- Select page: 6, address: 01, set data: 00, and press the PAUSE button.

Checking method:

- Select page: 0, address: 03, and set data: 03.
- Select page: 6, address: 01, set data: 01, and press the PAUSE button.
- Select page: 1, and check that the display data (Note) during IRIS OPEN satisfies the specified value.
- Select page: 6, address: 01, set data: 03, and press the PAUSE button.
- Select page: 1, and check that the display data during IRIS CLOSE satisfies the specified value.

Processing after Completing Adjustments

- Select page: 6, address: 94, and set data: 00.
- Select page: 6, address: 95, and set data: 00.
- Select page: 0, address: 03, and set data: 00.
- Select page: 0, address: 01, and set data: 00.
- Select page: 6, address: 01, set data: 00, and press the PAUSE button.

2. Flange Back Adjustment (Using the minipattern box)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for the minipattern box (Note 1)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E to 5D, 61

Note 1: Dark Siemens star chart.

Note 2: Perform this adjustment after performing “HALL adjustment”.

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Preparation for adjustment

The minipattern box is installed as shown in the following figure.

Note: The attachment lenses are not used.

Specified voltage: The specified voltage varies according to the minipattern box, so adjust the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

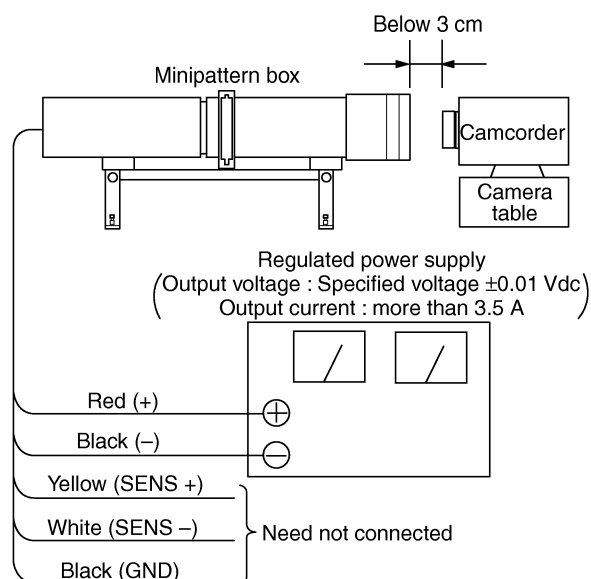


Fig. 5-1-8

Adjusting method:

- 1) Install the minipattern box so that the distance between it and the front of the lens of the camcorder is less than 3 cm.
- 2) Make the height of the minipattern box and the camcorder equal.
- 3) Check that the output voltage of the regulated power supply is the specified voltage ± 0.01 Vdc.
- 4) Check that at both the zoom lens TELE end and WIDE end, the center of the Siemens star chart and center of the exposure screen coincide.
- 5) Select page: 0, address: 01, and set data: 01.
- 6) Select page: 6, address: 82, and set data: 01.
- 7) Check that the data of page: F, address: 4E to 5D and 61 is the initial value (See table below).

Address	Data	Address	Data
4E	2E	57	00
4F	12	58	19
50	48	59	00
51	F1	5A	00
52	18	5B	04
53	5D	5C	00
54	66	5D	00
55	00	61	00
56	19		

- 8) Select page: 6, address: 02, and check that the data is “00”.
- 9) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
- 10) Select page: 6, address: 01, set data: 27, and press the PAUSE button.
(The adjustment data will be automatically input to page: F, addresses: 4E to 5D and 61)
- 11) Select page: 6, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

- 1) Turn OFF the main power supply (8.4 V).
- 2) Perform “Flange Back Check”.

3. Flange Back Adjustment (Using Flange Back Adjustment Chart Subject More Than 500 m Away)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

3-1. Flange Back Adjustment (1)

Subject	Flange back adjustment chart (2.0 m from the front of the lens) (Luminance: 350 ± 50 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E to 5D, 61

Note : Perform this adjustment after performing “HALL adjustment”.

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Adjusting method:

- 1) Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 6, address: 82, and set data: 01.
- 4) Check that the data of page: F, address: 4E to 5D, 61 is the initial value (See table below).

Address	Data	Address	Data
4E	2E	57	00
4F	12	58	19
50	48	59	00
51	F1	5A	00
52	18	5B	04
53	5D	5C	00
54	66	5D	00
55	00	61	00
56	19		

- 5) Select page: 6, address: 02, and check that the data is “00”.
- 6) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
- 7) Select page: 6, address: 01, set data: 15, and press the PAUSE button.
(The adjustment data will be automatically input to page: F, addresses: 4E to 5D, 61)
- 8) Select page: 6, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

- 1) Turn OFF the main power supply (8.4 V).
- 2) Perform “Flange Back Adjustment (2)”.

3-2. Flange Back Adjustment (2)

Perform this adjustment after performing “Flange Back Adjustment (1)”.

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E to 5D, 61

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Adjusting method:

- 1) Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subject with clear contrast such as building, etc.). (Nearby subjects less than 500 m away should not be in the screen)
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 6, address: 82, and set data: 01.
- 4) Select page: 6, address: 02, and check that the data is “00”.
- 5) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
- 6) Place a ND filter on the lens so that the optimum image is obtain.
- 7) Select page: 6, address: 01, set data: 29, and press the PAUSE button.
(The adjustment data will be automatically input to page: F, addresses: 4E to 5D, 61)
- 8) Select page: 6, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

- 1) Select page: 0, address: 01, and set data: 00.
- 2) Turn OFF the main power supply (8.4 V).
- 3) Perform “Flange Back Check”.

4. Flange Back Check

Subject	Siemens star (PTB-450) (2.0 m from the front of the lens) (Luminance : approx. 200 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Note: When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on the page 1 of the adjustment remote commander.

- 1) Select page: 0, address: 03, and set data: 0F.
- 2) Page 1 shows the state of the focus.

1 : 00 : XX

{ Odd: Focused
Even: Unfocused

Checking method:

- 1) Place the Siemens star 2.0 m from the front of the lens.
- 2) To open the IRIS, decrease the luminous intensity to the Siemens star up to a point before noise appear on the image.
- 3) Select page: 6, address: 40, and set data: 02.
- 4) Select page: 6, address: 41, and set data: 01.
- 5) Shoot the Siemens star with the zoom TELE end.
- 6) Turn on the auto focus.
- 7) Check that the lens is focused (Note).
- 8) Select page: 6, address: 21, and set data: 10.
- 9) Shoot the Siemens star with the zoom WIDE end.
- 10) Observe the TV monitor and check that the lens is focused.

Processing after Completing Adjustments

- 1) Select page: 6, address: 21, and set data: 00.
- 2) Select page: 6, address: 40, and set data: 00.
- 3) Select page: 6, address: 41, and set data: 00.
- 4) Select page: 0, address: 03, and set data: 00.

5. Optical Axis Adjustment

Correct a deviation of optical axis between the lens and the CCD imager.

If deviated, the screen center will be shifted when the lens is zoomed from TELE end to WIDE end.

Subject	Siemens Star (PTB-450)
Measurement Point	Check operation on monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	60

Note: “Flange Back Adjustment” must be already finished.

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Preparation for adjustment:

- 1) Play a monoscope portion of the System Check tape (WR5-5ND(NTSC) or WR5-5CD(PAL)).
- 2) Stick the optical axis deviation specification frame to the monitor screen so that the center of monoscope coincides with the center of specification frame.
- 3) Select the CAMERA mode.

Adjustment method:

- 1) Select page:0, address:01, and set data:01.
- 2) Select page:F, address:60, and set data:00, then press the PAUSE button on the adjusting remote commander.
- 3) Place the Siemens Star at 2m position away from the lens.
- 4) Shoot the Siemens Star with the zoom at TELE end.
- 5) Change the lens direction so that the center of Siemens Star coincides with the center of optical axis deviation specification frame.
- 6) Shoot the Siemens Star with the zoom at WIDE end.
- 7) Check on the monitor TV which area the center of Siemens Star exists of the optical axis deviation specification frame. At this time, measure the amount of deviation “L1” (distance from the center of Siemens Star to the center of optical axis deviation specification frame).
- 8) From the following table, read correction data according to the area.

Area	Deviation Phase	Correction Data
1	22.6° to 67.5°	01
2	67.6° to 112.5°	02
3	112.6° to 157.5°	03
4	157.6° to 202.5°	04
5	202.6° to 247.5°	05
6	247.6° to 292.5°	06
7	292.6° to 337.5°	07
8	337.6° to 22.5°	08

- 9) Select page:F, address:60, and set correction data, then press the PAUSE button on the adjusting remote commander.
- 10) Shoot the Siemens Star with the zoom at TELE end.
- 11) Change the lens direction so that the center of Siemens Star coincides with the center of optical axis deviation specification frame.
- 12) Shoot the Siemens Star with the zoom at WIDE end.
- 13) Measure the amount of deviation “L2” (distance from the center of Siemens Star to the center of optical axis deviation specification frame).
- 14) Compare L1 and L2, and make sure that the L2 is smaller than L1.
If large, select page:F, address:60, and set data:00, then press the PAUSE button on the adjusting remote commander.

Processing after completion of adjustment:

- 1) Select page:0, address:01, and set data:00.

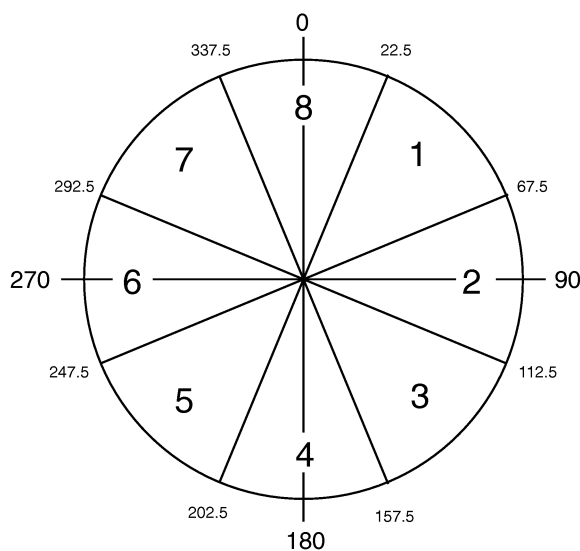


Fig. 5-1-9

6. Picture Frame Setting

Subject	Color bar chart (PTB-450) (Color reproduction adjustment frame) (1.5 m from the front of the lens)
Measurement Point	Video output terminal of A/V jack
Measuring Instrument	Oscilloscope and TV monitor
Specified Value	A=B, C=D, E=F

Note: “Flange Back Adjustment” must be already finished.

Switch setting:

- 1) NIGHT SHOTOFF
- 2) DIGITAL ZOOM (Menu display)OFF
- 3) STEADY SHOT (Menu display)OFF

Setting method:

- 1) Select page: 6, address: 82, and set data: 01.
- 2) Adjust the zoom and the camera direction, and set to the specified position.
- 3) Select page: 6, address: 82, and set data: 00.
- 4) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using “Color reproduction adjustment frame”.

Check on the oscilloscope

1. Horizontal period

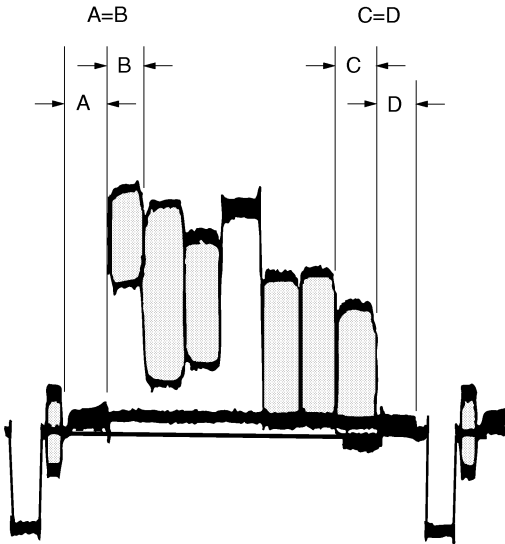


Fig. 5-1-10

2. Vertical period

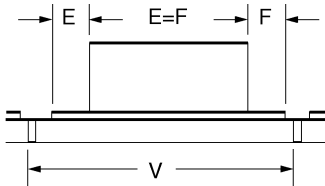


Fig. 5-1-11

Check on the monitor TV (Underscanned mode)

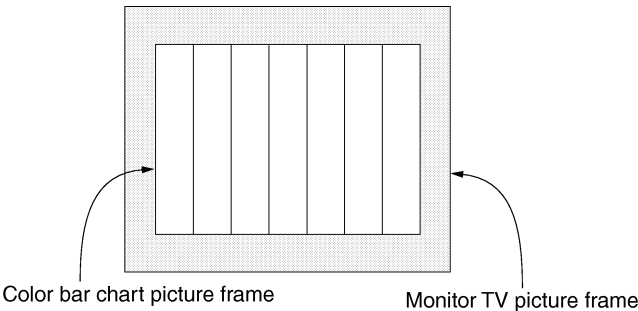


Fig. 5-1-12

7. Color Reproduction Adjustment

Adjust the color Separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart (PTB-450) (Color reproduction adjustment frame)
Measurement Point	Video output terminal of A/V jack
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	47, 49, D7, D8
Specified Value	All color luminance points should settle within each color reproduction frame.

Note: NTSC 720H model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720
PAL 960H model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 6, address: 82, and set data: 01.
- 3) Select page: F, address: 8B. After note down the data of this address, set data: 29 to the address, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 6, address: 01, set data: 3D, and press the PAUSE button.
- 5) Select page: F, address: 2B, set data: 17 (NTSC 720H model) or data: 97 (PAL 960H model), and press the PAUSE button.
- 6) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
- 7) Change the data of page: F, address: 47, 49, D7 and D8, and settle each color luminance point in each color reproduction frame.

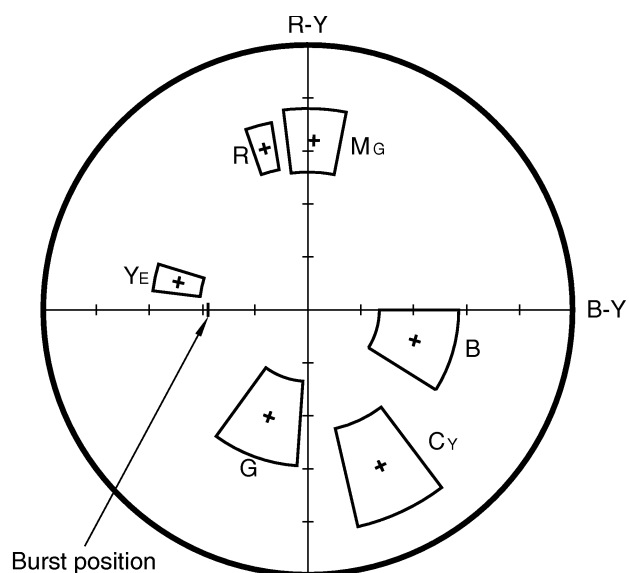
Note: Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.

- 8) Select page: F, address: 8B, and set the data that is noted down at step 3).

Processing after Completing Adjustments

- 1) Select page: F, address: 2B, set data: 13 (NTSC 720H model) or data: 93 (PAL 960H model), and press the PAUSE button of the adjustment remote commander.
- 2) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 3) Select page: 6, address: 82, and set data: 00.
- 4) Select page: 0, address: 01, and set data: 00.

NTSC 720H model



PAL 960H model

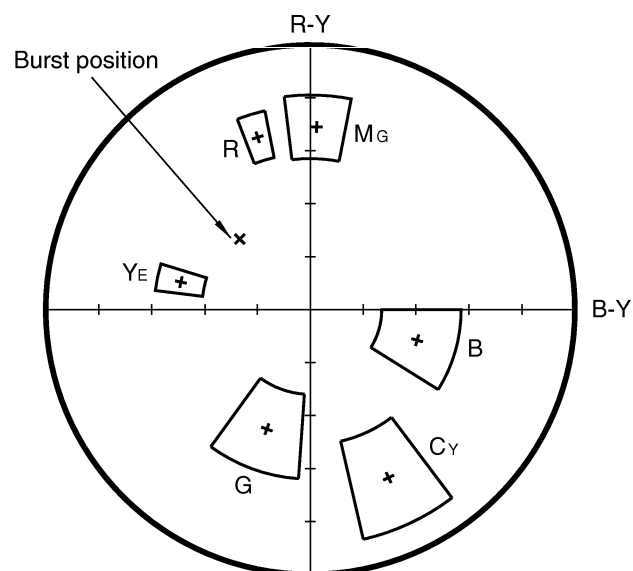


Fig. 5-1-13

8. AWB & LV Standard Data Input

Subject	Clear chart (PTB-450) (Color reproduction adjustment frame)
Adjustment Page	F
Adjustment Address	3C to 41

Note 1: This adjustment should be carried out upon completion of “Color Reproduction Adjustment”.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, turn the power of the unit OFF/ON.

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 6, address: 82, and set data: 01.
- 3) Wait for 2 seconds.
- 4) Select page: 6, address: 01, set data: 11, and press the PAUSE button of the adjustment remote commander.
- 5) Select page: 6, address: 01, set data: 0D, and press the PAUSE button.
(When the standard data is take in, the data will be automatically input to page: F, address: 3C to 41)
- 6) Select page: 6, address: 02, and check that the data is “01”.

Processing after Completing Adjustments

- 1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 2) Select page: 6, address: 82, and set data: 00.
- 3) Select page: 0, address: 01, and set data: 00.
- 4) Perform “Auto White Balance Adjustment”.

9. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.

If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (PTB-450) (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Display data of page 1 (Note2)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	42, 43
Specified Value	NTSC 720H model R ratio: 2A40 to 2AC0 B ratio: 60A0 to 6160 PAL 960H model R ratio: 2C40 to 2CC0 B ratio: 5FA0 to 6060

Note 1: Perform “Auto White Balance Standard Data Input” before this adjustment.

Note 2: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX

Display data

Note 3: NTSC 720H model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720

PAL 960H model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Adjusting method:

- 1) Place the C14 filter for color temperature correction on the lens.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 6, address: 82, and set data: 01.
- 4) Select page: F, addresses: B8 to BB, and note down the data of each address.
- 5) Input the following data to page: F, addresses: B8 to BB.

Address		B8	B9	BA	BB
Data	NTSC 720H model	2A	80	61	00
	PAL 960H model	2C	80	60	00

Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

- 6) Select page: 6, address: 01, set data: A7, and press the PAUSE button.
- 7) Wait for 2 seconds.
- 8) Select page: 6, address: 01, set data: A5, and press the PAUSE button.
(The auto white balance adjustment is performed and the adjustment data is stored in page: F, address: 42 and 43.)
- 9) Select page: 6, address: 02, and check that the data is “01”.
- 10) Select page: 6, address: 01, set data: 3F, and press the PAUSE button.
- 11) Select page: 0, address: 03, and set data: 04.
- 12) Select page: 1, and check that the display data (Note2) satisfies the R ratio specified value.
- 13) Select page: 0, address: 03, and set data: 05.
- 14) Select page: 1, and check that the display data (Note2) satisfies the B ratio specified value.
- 15) Select page: F, addresses: B8 to BB, and input the data noted down at step 3).

Note: After setting each data, be sure to press the PAUSE button of the adjustment remote commander.

Processing after Completing Adjustments

- 1) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 2) Select page: 6, address: 82, and set data: 00.
- 3) Select page: 0, address: 03, and set data: 00.
- 4) Select page: 0, address: 01, and set data: 00.

10. White Balance Check

Subject	Clear chart (PTB-450) (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction ND filter 1.0, 0.4 and 0.1
Measurement Point	Video output terminal of A/V jack
Measuring Instrument	Vectorscope
Specified Value	Fig. 5-1-14 A to C

Switch setting:

- 1) NIGHT SHOT OFF
- 2) DIGITAL ZOOM (Menu display) OFF
- 3) STEADY SHOT (Menu display) OFF

Checking method:

- 1) Check that the lens is not covered with either filter.
- 2) Select page: 6, address: 82, and set data: 01.
- 3) Select page: 6, address: 01, set data: 0F, and press the PAUSE button of the adjustment remote commander.
- 4) Check that the center of the white luminance point is within the circle shown Fig. 5-1-14 (A).
- 5) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 6) Select page: 6, address: 01, set data: 23, and press the PAUSE button.
- 7) Place the C14 filter on the lens.
- 8) Check that the center of the white luminance point settles in the circle shown Fig. 5-1-14 (B).
- 9) Remove the C14 filter, and place the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.
- 10) Check that the white luminance point stopped moving, and then remove the ND filter 1.5.
- 11) Check that the center of the white luminance point settles within the circle shown Fig. 5-1-14 (C).

Processing after Completing Adjustments

- 1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 2) Select page: 6, address: 82, and set data: 00.

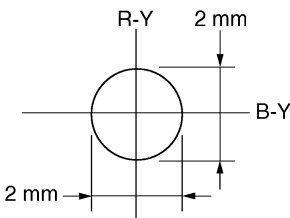


Fig. 5-1-14 (A)

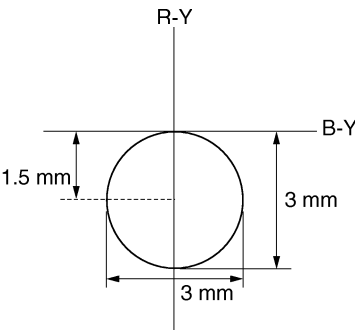


Fig. 5-1-14 (B)

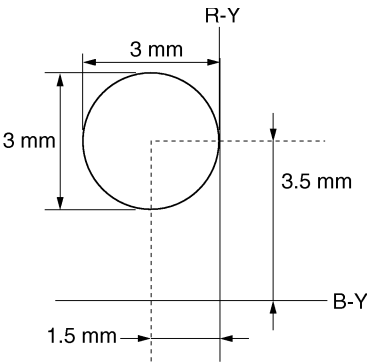


Fig. 5-1-14 (C)

11. Angular Velocity Sensor Sensitivity Data Preset and SteadyShot Check

Check the angular velocity sensor output.

Precautions on the Parts Replacement

There are two types of repair parts.

Type A ENC03JA

Type B ENC03JB

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Subject	Not required
Measurement Point	Display data of page 1 (Note 1)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	5E, 5F
Specified Value	PITCH data: 2900 to 4D00 YAW data: 2900 to 4D00

Note 1: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX

Display data

Note 2: NTSC model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720

PAL model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 5E, set data: 69 (NTSC model) or 9C (PAL model), and press the PAUSE button.
- 3) Select page: F, address: 5F, set data: 63 (NTSC model) or A0 (PAL model), and press the PAUSE button.
- 4) Select page: 0, address: 03, and set data: 11.
- 5) Select page: 1, and check that the display data (Note 1) during PITCH data satisfies the specified value.
- 6) Select page: 0, address: 03, and set data: 12.
- 7) Select page: 1, and check that the display data during YAW data satisfies the specified value.

Processing after Completing Adjustments

- 1) Select page: 0, address: 03, and set data: 00.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Check that the steady shot operations have been performed normally.

1-4. MONOCHROME CRT ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS (DCR-TRV320/TRV320E: E, HK, AUS, CN/ TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)

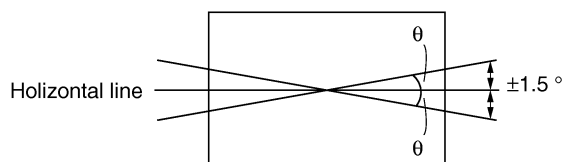
Note: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P
PAL model: DCR-TRV320E/TRV420E: CN/TRV520E: E, HK, AUS, CN, JE

1-4-1. Horizontal Slant Check

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Specified Value	$\pm 1.5^\circ$

Adjustment method:

- 1) Adjust RV904 (BRIGHT) (VF-129 board) so that the CRT can be seen easily and clearly.
- 2) Check that the difference between the horizontal line and the tilt of black mask satisfies the specified value.



Specified value : The image should be within $\pm 1.5^\circ$ of the horizontal line.

Fig. 5-1-15

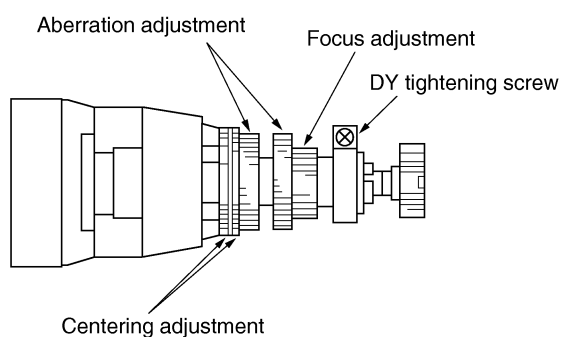


Fig. 5-1-16

1-4-2. Centering Adjustment

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Specified Value	$\pm 4\%$

Adjustment method:

- 1) Use the centering adjustment ring and adjust so that the left, light, top, and bottom sides of the display are uniform. (Refer to Fig. 5-1-15)

Note: As the centering position changes due to earth magnetism, rotate it 360° in the horizontal direction, and adjust with the center section of the modifying position.

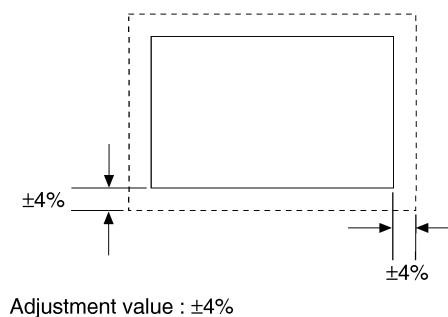


Fig. 5-1-17

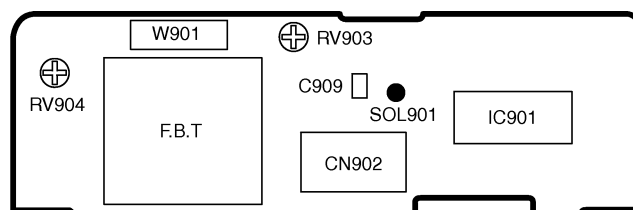
1-4-3. Focus Adjustment

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section

Adjustment method:

- 1) Adjust the focus ring to obtain the optimum focus. (Refer to Fig. 5-1-15)

VF-129 BOARD



1-4-4. Aberration Adjustment

Mode	VTR stop
Signal	Dot pattern
Specified Value	$b1 \leq 2 \times a1$ $b2 \leq 0.8 \times a2$

Adjustment method:

- 1) Adjust the aberration adjustment ring so that the tracing of the dot satisfies the specified value.
- 2) If the centering becomes displaced here, perform the centering adjustment from the beginning again.

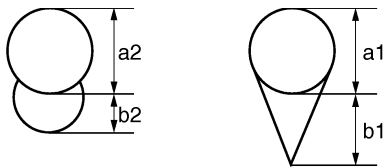


Fig. 5-1-18

1-4-5. Horizontal Amplitude Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	C909 (SOL901)
Specified Value	$12 \pm 6\%$

Adjustment method:

- 1) Rotate RV903, and adjust the top and bottom side of the monoscope image to the top and bottom edges of the display.
- 2) Rotate RV904 so that the brightness is the normal level.
- 3) Solder or unsolder SOL901 pattern of the H size adjustment capacitor (C909) to “short” or “open”, so that the horizontal direction over scan becomes $12 \pm 6\%$ (Left and right totals).

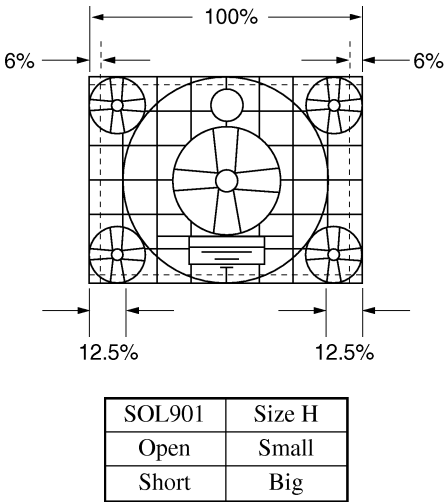
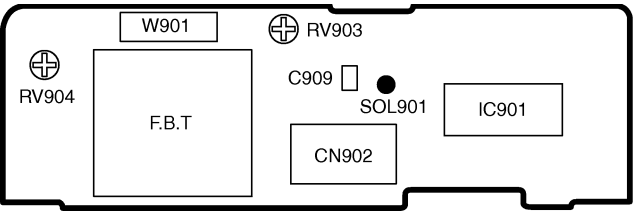


Fig. 5-1-19

VF-129 BOARD



1-4-6. Vertical Amplitude Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	RV903
Specified Value	$10 \pm 3\%$

Adjustment method:

- 1) Adjust RV903 so that the vertical direction over scan becomes $10 \pm 3\%$ (Top and bottom totals).

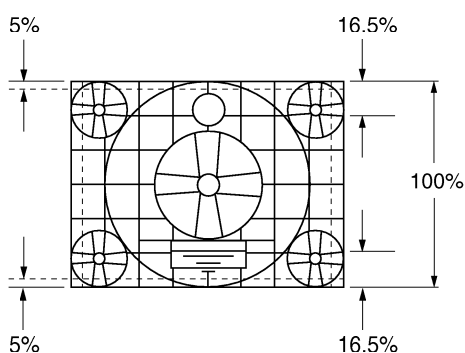
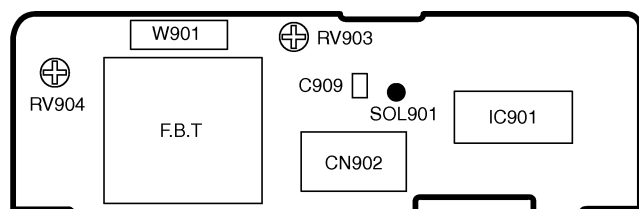


Fig. 5-1-20

VF-129 BOARD



1-4-7. Brightness Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	RV904

Adjustment method:

- 1) Rotate RV904, and adjust so that the bright/dark sections of gray scale are displayed correctly. (The bright section should be unsatisfactory till the cross hatch appears vague in the monoscope circle. The dark section should be unsatisfactory till the darkest section of the gray scale cannot be differentiate.)

1-4-8. Horizontal Amplitude, Vertical Amplitude, Focus Check

“1-4-5. Horizontal Amplitude Adjustment” and “1-4-6. Vertical Amplitude Adjustment” should be both satisfy the specified values. If not, perform the adjustments from the beginning again. In this case, perform “1-4-7. Brightness Adjustment” again. Moreover, check the focus, and if it found to be vague, perform “1-4-3. Focus Adjustment” and “1-4-4. Aberration Adjustment”.

1-5. LCD ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS (DCR-TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E/TRV720/TRV720E)

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: COLOR LCD EVF model:

DCR-TRV525/TRV620E/TRV720/TRV720E

B/W LCD EVF model:

DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E:

AEP/TRV520E: AEP

[Adjusting connector]

Most of the measuring points for adjusting the viewfinder system are concentrated at VC-235 board CN1108. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). The following table lists the pin numbers and signal names of CN1108.

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	F0 ADJ RF IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

1. EVF Initial Data Input (1)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	C
Adjustment Address	9B to A8

Adjusting method:

1) Select page: 0, address:01, and set data: 01.

2) Select page: C, and input the data in the following table.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

3) Select page: 0, address:01, and set data: 00.

Address	Data	Remark
9B	4C	Fixed data
9C	00	
9D	A0	
9E	CE	
9F	64	
A0	24	
A1	00	
A2	80	
A3	12	
A4	0C	
A5	25	
A6	00	
A7	08	
A8	18	

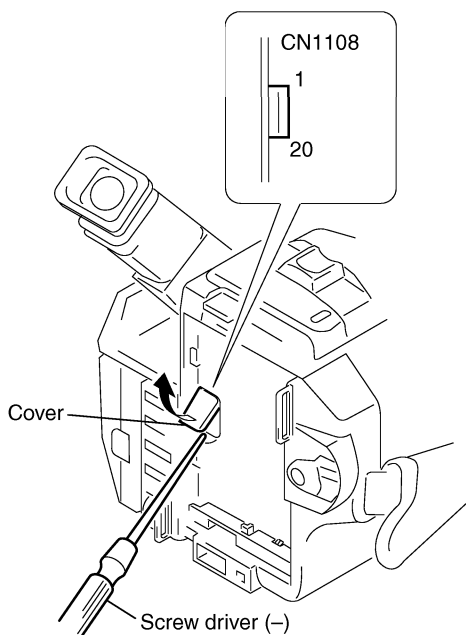


Fig. 5-1-21

2. EVF Initial Data Input (2)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	92 to 9F, B0, B2

Note: COLOR LCD EVF model:

DCR-TRV525/TRV620E/TRV720/TRV720E

B/W LCD EVF model:

DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E:

AEP/TRV520E: AEP

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, and input the data in the following table.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

- 3) Select page: 0, address: 01, and set data: 00.

Address	Data		Remark
	COLOR	B/W	
92	80	80	VCO adj.
93	70	70	VCO adj. (PAL model) Fixed data (NTSC model)
94	26	26	Fixed data
95	A0	A0	RGB AMP adj.
96	0F	0F	Fixed data
97	80	80	White balance adj. (COLOR LCD EVF model)
98	80	80	Fixed data (B/W LCD EVF model)
99	30	30	Contrast adj.
9A	80	80	Fixed data
9B	90	90	
9C	D0	D0	
9D	10	10	Backlight consumption current adj.
9E	10	10	
9F	1F	18	
B0	FC	FC	Fixed data
B2	FF	FF	

3. VCO Adjustment (VF-141 board)

Set the VCO free-run frequency. If deviated, the EVF screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN1108 (VCO) on VC-235 board
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	92 (NTSC model) 92, 93 (PAL model)
Specified Value	f=15734 ± 30 Hz (NTSC model) f=15625 ± 30 Hz (PAL model)

Note 1: NTSC model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720

PAL model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

Adjusting method (NTSC model):

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 92, change the data and set the VCO frequency (f) to the specified value.
- 3) Press the PAUSE button of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 00.

Adjusting method (PAL model):

- 1) Select page: 0, address: 01, and set data: 01.
 - 2) Select page: D, address: 92, change the data, and set the VCO frequency (f) to the specified value.
 - 3) Press the PAUSE button of adjustment remote commander.
 - 4) Read the adjustment data of step 2), and this data is named D₉₂.
 - 5) Convert D₉₂ to decimal notation, and obtain D₉₂'.
- (Refer to Table 5-4-1 "Hexdecimal-decimal conversion table" of "5-4. Service Mode")
- 6) Calculate D₉₃' using following equations (decimal calculation), convert it to a hexadecimal number, and obtain D₉₃.

$$D_{93}' = D_{92}' - 26$$

Note2: If D₉₃' < 0, then D₉₃ = "00"

- 7) Select page: D, address: 93, set data D₉₃, and then press the PAUSE button of adjustment remote commander.
- 8) Select page: 0, address: 01, and set data: 00.

4. RGB AMP Adjustment (VF-141 board)

Set the D range of the RGB driver used to drive the LCD to the specified value. If deviated, the EVF screen will become blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑫ of CN1108 (EVF VG) on VC-235 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	95
Specified Value	A=7.00 ± 0.1 Vp-p (COLOR LCD EVF model) A=7.40 ± 0.1 Vp-p (B/W LCD EVF model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 95, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
- 3) Press the PAUSE button.
- 4) Select page: 0, address: 01, and set data: 00.

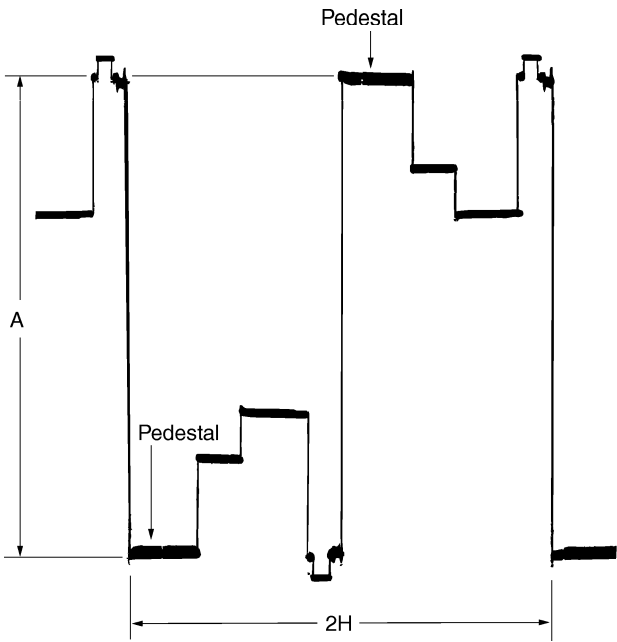


Fig. 5-1-22

5. Contrast Adjustment (VF-141 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑫ of CN1108 (EVF VG) on VC-235 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	99
Specified Value	A=2.40 ± 0.1 Vp-p (NTSC model) A=2.20 ± 0.1 Vp-p (PAL model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 99, change the data and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value. (The data of address: 99, should be "00" to "7F")
- 3) Press the PAUSE button.
- 4) Select page: 0, address: 01, and set data: 00.

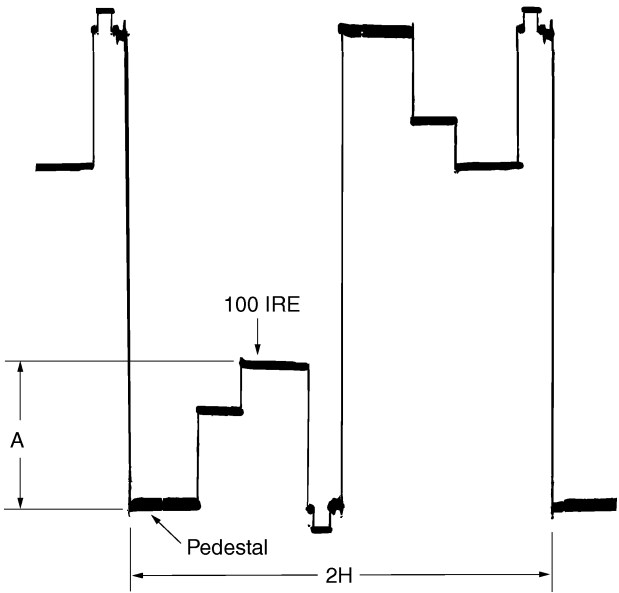


Fig. 5-1-23

6. Backlight Consumption Current Adjustment (VF-141 board)

Set the backlight luminance and color temperature.
If deviated, the image may become dark or bright.

Mode	Camera
Subject	Arbitrary
Measurement Point	+Probe: Pin ⑩ of CN1108 (EVF BL 4.6V on VC-235 board) -Probe: Pin ⑨ of CN1108 (EVF BL) on VC-235 board
Measuring Instrument	Digital voltmeter
Adjustment Page	D
Adjustment Address	9C, 9D, 9E
Specified Value	COLOR LCD EVF model: BRIGHT mode: $A=15.0 \pm 1$ mV NORMAL mode: $A=10.0 \pm 1$ mV B/W LCD EVF model: BRIGHT mode: $A=11.0 \pm 1$ mV NORMAL mode: $A=7.0 \pm 1$ mV

Note: COLOR LCD EVF model:
DCR-TRV525/TRV620E/TRV720/TRV720E
B/W LCD EVF model:
DCR-TRV320E: AEP, UK, EE, NE, RU/
TRV420E: AEP/TRV520E: AEP

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 9D, change the data, and set the voltage difference (A) between Pin ⑩ of CN1108 (EVF BL 4.6V) and Pin ⑨ of CN1108 (EVF BL) to the specified value of BRIGHT mode.
(The data of address: 9D, should be "00" to "3F")
- 3) Press the PAUSE button of adjustment remote commander.
- 4) Read the adjustment data of step 2), and this data is named D_{9D}.
- 5) Convert D_{9D} to decimal notation, and obtain D_{9D}'.
(Refer to Table 5-4-1. "Hexdecimal-decimal conversion table" of "5-4. Service Mode".)
- 6) Calculate D_{9C}' using following equations (decimal calculation), convert it to a hexadecimal number, and obtain D_{9C}.
$$D_{9C}' = D_{9D}' + 192$$
- 7) Select page: D, address: 9C, set data D_{9C}, and then press the PAUSE button of adjustment remote commander.
- 8) Select page: D, address: 9E, change the data, and set the voltage difference (A) between Pin ⑩ of CN1108 (EVF BL 4.6V) and Pin ⑨ of CN1108 (EVF BL) to the specified value of NORMAL mode.
(The data of address: 9D, should be "00" to "1F")
- 9) Press the PAUSE button of adjustment remote commander.
- 10) Select page: 0, address: 01, and set data: 00.

7. White Balance Adjustment (VF-141 board) (DCR-TRV525/TRV620E/TRV720/TRV720E)

Correct the white balance.

If deviated, the EVF screen color cannot be reproduced.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on EVF display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	97, 98
Specified Value	The EVF screen should not be colored.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 97 and 98, and set the data to the initial value.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
97	80
98	80

- 3) Check that the EVF screen is not colored. If colored, change the data of page: D, address: 97 and 98 so that the EVF screen is not colored.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

- 4) Select page: 0, address: 01, and set data: 00.

1-6. LCD SYSTEM ADJUSTMENTS

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: Set the LCD BRIGHT to the center.
Set the LCD COLOR (Menu display) to the center.

Note 4: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/
TRV620E
4 LCD model: DCR-TRV720/TRV720E

	PD board
2.5 LCD model	PD-117
3/3.5/4 LCD model	PD-118

[Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in the following connector.

CN5502 of the PD-117/118 board

Connect the Measuring Instruments via the multi CPC jig (J-6082-311-A).

The following table shows the Pin No. and signal name of the connector.

Pin No.	Signal Name	Pin No.	Signal Name
1	VB	2	XVD OUT
3	VG	4	PANEL.COM
5	VR	6	N.C.
7	C-SYNC/XHD	8	XHD OUT
9	GND	10	GND

[LCD type check]

By measuring the resistor value between Pin ⑥ of CN5502 and Pin ⑩ of CN5502, the type of LCD can be discriminated.

PD-117/118 board CN5502

Resistor value	LCD type
1 kΩ	2.5 LCD TYPE S 61 k
1.5 kΩ	2.5 LCD TYPE C 61 k
2.2 kΩ	2.5 LCD TYPE S 123 k
4.7 kΩ	3 LCD TYPE S
5.6 kΩ	3.5 LCD TYPE S
6.8 kΩ	3.5 LCD TYPE C
8.2 kΩ	4 LCD TYPE S
10 kΩ	4 LCD TYPE C

Abbreviation

EE : East European model
NE : North European model
RU : Russian model
HK : Hong Kong model
AUS : Australian model
CN : Chinese model

1. LCD Initial Data Input (1)

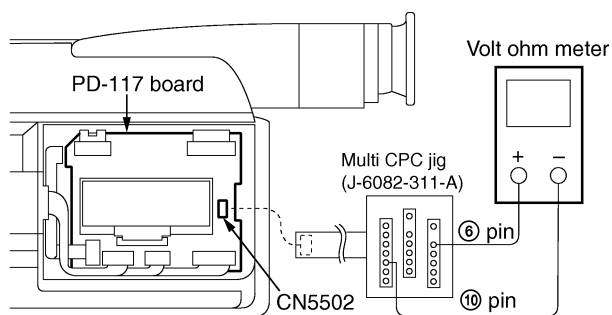
Mode	VTR stop
Signal	Arbitrary
Adjustment Page	C
Adjustment Address	AB to BA

Adjusting method:

- 1) Select page: 0, address:01, and set data: 01.
- 2) Select page: C, and input the data in the following table.
Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
- 3) Select page: 0, address:01, and set data: 00.

Address	Data			Remark
	2.5	3	3.5/4	
AB	53	53	53	Fixed data
AC	00	00	00	
AD	90	90	90	
AE	CB	CB	CB	
AF	66	68	6C	
B0	26	28	2C	
B1	00	00	00	
B2	00	00	00	
B3	20	20	20	
B4	0A	0A	0A	
B5	24	24	24	
B6	1A	1A	1A	
B7	08	0F	0F	
B8	17	17	17	
B9	21	21	21	
BA	23	23	23	

DCR-TRV320/TRV320E/TRV320P



DCR-TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E/TRV720/TRV720E

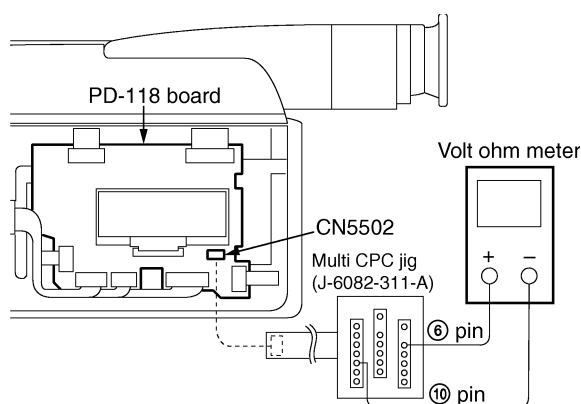


Fig. 5-1-24

2. LCD Initial Data Input (2)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	A0 to AA, AC to B1

Adjusting method:

- 1) Select page: 0, address:01, and set data: 01.
- 2) Select page: D, and input the data in the following table.
Note 1: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
- 3) Select page: 0, address:01, and set data: 00.

Address	Data		Remark
	TYPE S	TYPE C	
A0	*	*	Fixed data (Note 3)
A1	*	*	
A2	80	80	VCO adj.
A3	70	70	VCO adj. (PAL model) Fixed data (NTSC model)
A4	80	80	V-COM adj.
A5	30	20	RGB AMP adj.
A6	00	00	Fixed data
A7	C0	80	COM AMP adj.
A8	80	80	White balance adj.
A9	80	80	
AA	50	30	Contrast adj.
AC	*	*	Fixed data (Note 3)
AD	*	*	
AE	9F	9F	Fixed data
AF	1F	1F	
B0	FC	FC	
B1	FF	FF	

Note 2: * mark data

Address	Data							
	TYPE S				TYPE C			
	2.5		3	3.5	4	2.5	3.5	4
	61 k	123 k				61 k		
A0	78	78	6C	70	7D	78	70	7D
A1	95	95	85	8D	A6	95	8D	A6
AC	14	33	73	53	33	0A	55	33
AD	14	14	14	14	14	0E	13	13

3. VCO Adjustment (PD-117/118 board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑧ of CN5502 (XHD OUT)
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	A2 (NTSC model) A2, A3 (PAL model)
Specified Value	f=15734 ± 30 Hz (NTSC model) f=15625 ± 30 Hz (PAL model)

Note 1: NTSC model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

Adjusting method (NTSC model):

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: A2, change the data and set the VCO frequency (f) to the specified value.
- 3) Press the PAUSE button of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 00.

Adjusting method (PAL model):

- 1) Select page: 0, address: 01, and set data: 01.
 - 2) Select page: D, address: A2, change the data, and set the VCO frequency (f) to the specified value.
 - 3) Press the PAUSE button of adjustment remote commander.
 - 4) Read the adjustment data of step 2), and this data is named DA2.
 - 5) Convert DA2 to decimal notation, and obtain DA2'.
- (Refer to Table 5-4-1 "Hexadecimal-decimal conversion table" of "5-4. Service Mode")
- 6) Calculate DA3' using following equations (decimal calculation), convert it to a hexadecimal number, and obtain DA3.
- 2.5 LCD TYPE C 61 k model/
2.5 LCD TYPE S 61 k model:

$$DA3' = DA2' - 16$$

2.5 LCD TYPE S 123 k model/
3 LCD TYPE S model/
4 LCD TYPE C model/
4 LCD TYPE S model:

$$DA3' = DA2' - 23$$

3.5 LCD TYPE C model/
3.5 LCD TYPE S model:

$$DA3' = DA2' - 4$$

Note 2: If $DA3' < 0$, then $DA3 = "00"$

- 7) Select page: D, address: A3, set data DA3, and then press the PAUSE button of adjustment remote commander.
- 8) Select page: 0, address: 01, and set data: 00.

4. RGB AMP Adjustment (PD-117/118 board)

Set the D range of the RGB driver used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN5502 (VG) External trigger : Pin ④ of CN5502 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	A5
Specified Value	A=3.59 ± 0.05 Vp-p (TYPE S model) A=2.81 ± 0.05 Vp-p (2.5 LCD TYPE C 61 k model) A=3.20 ± 0.05 Vp-p (3.5/4 LCD TYPE C model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: A5, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
(The data of address: A5, should be "00" to "3F")
- 3) Press the PAUSE button.
- 4) Select page: 0, address: 01, and set data: 00.

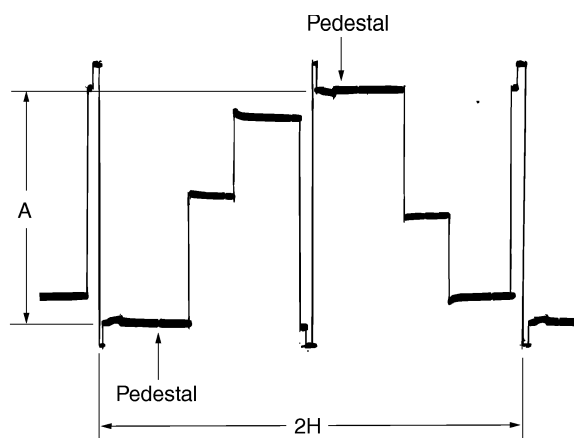


Fig. 5-1-25

5. Contrast Adjustment (PD-117/118 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN5502 (VG) External trigger : Pin ④ of CN5502 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	AA
Specified Value	A=3.47 ± 0.07 Vp-p (TYPE S 61 k model) A=3.34 ± 0.07 Vp-p (TYPE S 123 k model) A=2.80 ± 0.07 Vp-p (2.5 LCD TYPE C 61 k model) A=3.00 ± 0.07 Vp-p (3.5/4 LCD TYPE C model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: AA, change the data and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
(The data of address: AA, should be "00" to "7F")
- 3) Press the PAUSE button.
- 4) Select page: 0, address: 01, and set data: 00.

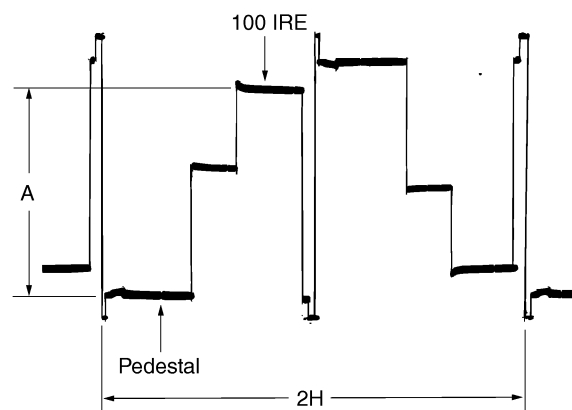


Fig. 5-1-26

6. COM AMP Adjustment (PD-117/118 board)

Set the common electrode drive signal level of LCD to the specified value.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ④ of CN5502 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	A7
Specified Value	A=6.33 ± 0.05 Vp-p (2.5/3/4 LCD TYPE S model) A=6.10 ± 0.05 Vp-p (3.5 LCD TYPE S model) A=5.05 ± 0.05 Vp-p (2.5 LCD TYPE C 61 k model) A=5.50 ± 0.05 Vp-p (3.5/4 LCD TYPE C model)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: A7, change the data and set the PANEL COM signal level (A) to the specified value.
- 3) Press the PAUSE button.
- 4) Select page: 0, address: 01, and set data: 00.

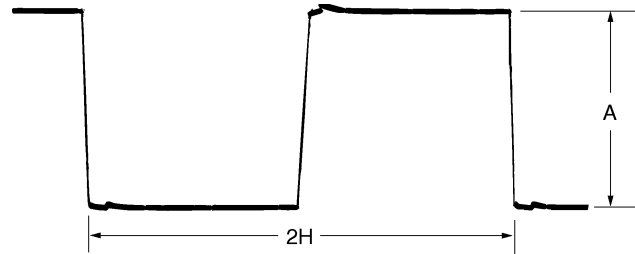


Fig. 5-1-27

7. V-COM Adjustment (PD-117/118 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.

If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	A4

Note: Perform “Bright Adjustment” and “Contrast Adjustment” before this adjustment.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: A4, change the data so that the brightness of the section A and that of the section B is equal.
- 3) Read the adjustment data of step 2), and this data is named Dref.
- 4) Convert Dref to decimal notation, and obtain Dref’.
(Refer to Table 5-4-1 “Hexdecimal-decimal conversion table” of “5-4. Service Mode”)
- 5) Calculate DA4’ using following equations (decimal calculation), convert it to a hexadecimal number, and obtain DA4.
 $DA4' = Dref' - 8$
- 6) Select page: D, address: A4, set data DA4, and then press the PAUSE button of adjustment remote commander.
- 7) Select page: 0, address: 01, and set data: 00.

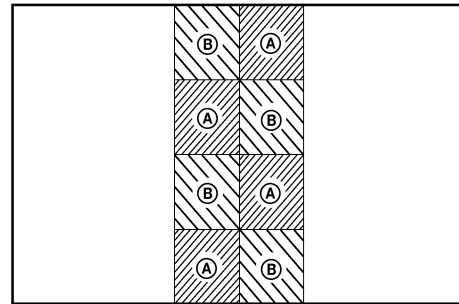


Fig. 5-1-28

8. White Balance Adjustment (PD-117/118 board)

Correct the white balance.

If deviated, the LCD screen color cannot be reproduced.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	A8, A9
Specified Value	The LCD screen should not be colored.

Note 1: Check the white balance only when replacing the following parts. If necessary, adjust them.

1. LCD panel
2. Light induction plate
3. IC5501

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: A8 and A9, and set the data to the initial value.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
A8	80
A9	80

- 3) Check that the LCD screen is not colored. If colored, change the data of page: D, address: A8 and A9 so that the LCD screen is not colored.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

- 4) Select page: 0, address: 01, and set data: 00.

5-2. MECHANISM SECTION ADJUSTMENT

Mechanism Section adjustments, checks, and replacement of mechanism parts, refer to the separate volume “8 mm Video Mechanism Adjustment Manual VII [B Mechanism]”.

Note 1: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

2-1. Hi8/STANDARD 8 mm MODE

2-1-1. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

- 1) Refer to “Section 2. DISASSEMBLY” and supply the power with the cabinet assembly removed. (So that the mechanical deck can be operated)
- 2) Connect the adjustment remote commander to the LANC jack.
- 3) Turn on the HOLD switch of the adjustment remote commander.
- 4) Close the cassette compartment without loading a cassette and complete loading.
- 5) Select page: 0, address: 01, and set data: 01.
- 6) Select page: F, address: 22, set data: 81, and press the PAUSE button of the adjustment remote commander.
- 7) Select page: D, address: 10, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 8) Select page: 2, address: 2E, and set data: 02.
- 9) Press the PLAY button of the unit.

Note2: Be sure to carry out “Processing after checking Operations” after checking the operations.
Set the data of page: D, address: 10 to “12”, if the sensor ineffective mode, forced VTR power supply ON mode is to be used together.

[Procedure after checking operations]

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 2E, and set data: 00.
- 3) Select page: F, address: 22, set data: 80, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Disconnect the power supply of the unit.

2-1-2. TAPE PATH ADJUSTMENT

1. Preparations for Adjustment

- 1) Clean the tape path face (tape guide, capstan shaft, pinch roller).
- 2) Connect the adjustment remote commander to the LANC jack.
- 3) Turn on the HOLD switch of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 01.
- 5) Select page: 2, address: 2E, and set data: 02.
- 6) Select page: F, address: 22, set data: 88, and press the PAUSE button of the adjustment remote commander.
(Be sure to perform “Processing after operation” after completing adjustments)
- 7) Connect the oscilloscope to VC-235 board CN1108 via CPC-13 jig (J-6082-443-A).
Channel 1: VC-235 board, CN1108 Pin ⑤
External trigger: VC-235 board, CN1108 Pin ⑧
- 8) Playback Hi8/standard 8 mm alignment tape for tracking.
(WR5-1NP(NTSC))
(WR5-1CP(PAL))
- 9) Check that the oscilloscope RF waveform is flat at the entrance and exit.
If not flat, adjust according to the separate volume “8 mm Video Mechanical Adjustment Manual VII [B Mechanism]”.
- 10) Perform “Processing after operations”, after completing adjustment.

CN1108 of VC-235 board

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	F0 ADJ RF IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

Table 5-2-1

[Procedure after operations]

- 1) Connect the adjustment remote commander, and turn on the HOLD switch.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 2, address: 2E, and set data: 00.
- 4) Select page: F, address: 22, set data: 80, and press the PAUSE button of the adjustment remote commander.
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Remove the power supply from the unit.

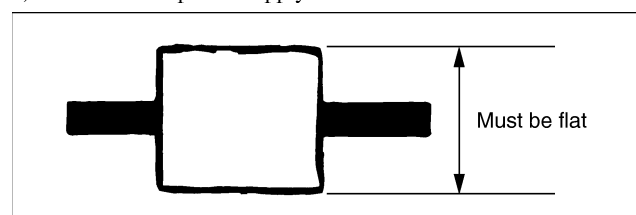


Fig. 5-2-1

2-2. DIGITAL8 MODE

2-2-1. HOW TO ENTER RECORD MODE WITHOUT CASSETTE

- 1) Connect the adjustment remote commander to the LANC jack.
- 2) Turn the HOLD switch of the adjustment remote commander to the ON position.
- 3) Close the cassette compartment without the cassette.
- 4) Select page: 3, address: 01, and set data: 0C, and press the PAUSE button of the adjustment remote commander. (The mechanism enters the record mode automatically)
Note: The function buttons becomes inoperable.
- 5) To quit the record mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the record mode, be sure to quit following this procedure)

2-2-2. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

- 1) Connect the adjustment remote commander to the LANC jack.
- 2) Turn the HOLD switch of the adjustment remote commander to the ON position.
- 3) Close the cassette compartment without the cassette.
- 4) Select page: 3, address: 01, and set data: 0B, and press the PAUSE button of the adjustment remote commander. (The mechanism enters the playback mode automatically)
Note: The function buttons becomes inoperable.
- 5) To quit the playback mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the playback mode, be sure to quit following this procedure)

2-2-3. OVERALL TAPE PATH CHECK

1. Recording of the tape path check signal

- 1) Clean the tape running side (tape guide, capstan shaft, pinch roller).
- 2) Connect the adjustment remote commander to the LANC jack.
- 3) Turn the HOLD switch of the adjustment remote commander to the ON position.
- 4) Set to the camera recording mode.
- 5) Select page: 3, address: 1C, set data: 5D, and press the PAUSE button of the adjustment remote commander.
- 6) Record for several minutes.
- 7) Release the camera recording mode.
- 8) Select page: 3, address: 1C, set data: 00, and press the PAUSE button.

2. Tape path check

- 1) Clean the tape running side (tape guide, capstan shaft, pinch roller).
- 2) Connect the adjustment remote commander to the LANC jack.
- 3) Turn the HOLD switch of the adjustment remote commander to the ON position.
- 4) Connect an oscilloscope to VC-235 board CN1108 via the CPC-13 jig (J-6082-443-A).
Channel 1: VC-235 board, CN1108 Pin ⑩ (Note)
External trigger: VC-235 board, CN1108 Pin ⑬
Note: Connect a 75 Ω resistor between Pins ⑩ of CN1108 and ⑥ (GND).
- 5) Select page: 2, address: 2E, and set data: 01.
- 6) Playback the tape path check signal.
- 7) Select page: 3, address: 33, and set data: 08.
- 8) Select page: 3, address: 26, and set data: 31.
- 9) Check that the oscilloscope RF waveform is flat at the entrance and exit.
If not flat, perform "2-1-2. TAPE PATH ADJUSTMENT " of "2-1. Hi8/STANDARD 8 mm MODE".
- 10) Select page: 3, address: 26, and set data: 00.
- 11) Select page: 3, address: 33, and set data: 00.
- 12) Select page: 2, address: 2E, and set data: 00.

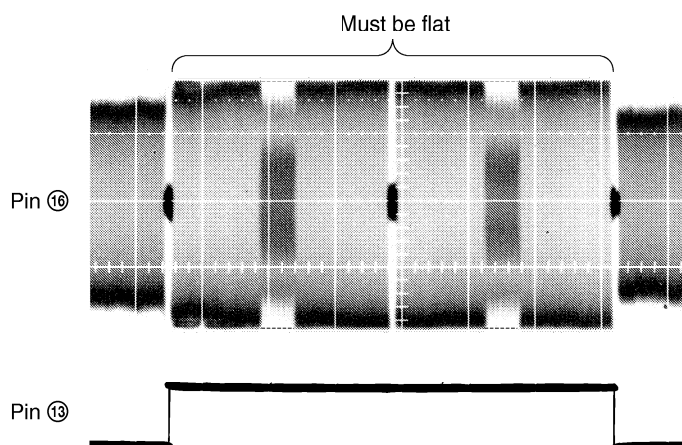


Fig. 5-2-2

5-3. VIDEO SECTION ADJUSTMENT

3-1. PREPARATIONS BEFORE ADJUSTMENTS

Use the following measuring instruments for video section adjustments.

Note: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/
TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

3-1-1. Equipment to Required

- 1) TV monitor
 - 2) Oscilloscope (dual-phenomenon, band width above 30 MHz with delay mode) (Unless specified otherwise, use a 10 : 1 probe)
 - 3) Frequency counter
 - 4) Pattern generator with video output terminal
 - 5) Digital voltmeter
 - 6) Audio generator
 - 7) Audio level meter
 - 8) Audio distortion meter
 - 9) Audio attenuator
 - 10) Regulated power supply
 - 11) Digital8 alignment tapes
 - SW/OL standard (WR5-2D)
Parts code: 8-967-993-22
 - Audio operation check for NTSC (WR5-3ND)
Parts code: 8-967-993-32
 - System operation check for NTSC (WR5-5ND)
Parts code: 8-967-993-42
 - Audio operation check for PAL (WR5-3CD)
Parts code: 8-967-993-37
 - System operation check for PAL (WR5-5CD)
Parts code: 8-967-993-47
 - 12) NTSC Hi8/standard 8 mm alignment tapes (For NTSC model)
 - For tracking adjustment (WR5-1NP)
Parts code: 8-967-995-02
 - For video frequency characteristics adjustment (WR5-7NE)
Parts code: 8-967-995-13
 - For checking Standard 8 mode operations
For LP (WR5-4NL)
Parts code: 8-967-995-51
For SP (WR5-5NSP)
Parts code: 8-967-995-42
- Note:** The following alignment tapes can also be used.
- WR5-4NSP (8-967-995-41)
- For checking Hi8 mode operations
For LP (WR5-8NLE)
Parts code: 8-967-995-52
For SP (WR5-8NSE)
Parts code: 8-967-995-43
 - For Checking AFM stereo operations (WR5-9NS)
Parts code: 8-967-995-23
 - For BPF adjustment (WR5-11NS)
Parts code: 8-967-995-71

- 13) PAL Hi8/standard 8 mm alignment tapes (For PAL model)
 - For tracking adjustment (WR5-1CP)
Parts code: 8-967-995-07
 - For video frequency characteristics adjustment (WR5-7CE)
Parts code: 8-967-995-18
 - For checking Standard 8 mode operations
For LP (WR5-4CL)
Parts code: 8-967-995-56
For SP (WR5-5CSP)
Parts code: 8-967-995-47
- Note:** The following alignment tapes can also be used.
- 1) WR5-3CL (8-967-995-36)
 - 2) WR5-4CSP (8-967-995-46)
- For checking Hi8 mode operations
For LP (WR5-8CLE)
Parts code: 8-967-995-57
For SP (WR5-8CSE)
Parts code: 8-967-995-48
 - For Checking AFM stereo operations (WR5-9CS)
Parts code: 8-967-995-28
 - For BPF adjustment (WR5-11CS)
Parts code: 8-967-995-76
- 14) Adjustment remote commander (J-6082-053-B)
- 15) CPC-13 jig (J-6082-443-A)
- 16) Power code (J-6082-223-A)
- Note:** Connect the adjustment remote commander to the LANC jack, and set the HOLD switch to the "ADJ" side.
- 17) IR receiver jig (J-6082-383-A)

3-1-2. Precautions on Adjusting

- 1) The adjustments of this unit are performed in the VTR mode or camera mode.
To set to the VTR mode, set the power switch to "VTR or PLAYER" or set the "Forced VTR Power ON mode" using the adjustment remote commander (Note 1).
To set to the Camera mode, set the power switch to "CAMERA" or set the "Forced Camera Power ON mode" using the adjustment remote commander (Note 2).
After completing adjustments, be sure to exit the "Forced VTR Power ON Mode" or "Forced Camera Power ON Mode". (Note 3)
- 2) The front panel block (MI-37 board, focus dial, microphone unit) need not be connected except during "Battery end adjustment" and "IR transmitter adjustment". To remove, disconnect the following connectors.
VC-235 board CN1111 (32P 0.5 mm)
- 3) By setting the "Forced VTR Power ON mode" or "Forced Camera Power ON mode", the video section can be operate even if the cabinet (R) block (Camera function switch (CF-69/70/72 board), LCD block, viewfinder) has been removed. But removing the cabinet (R) block (removing the VC-235 board CN1105) means removing the lithium 3 V power supply (CF-69/70/72 board BH001), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) block has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc.) will be lost. Before removing, note down the self-diagnosis data and data on history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4. Service Mode" for the data on the history use) To remove the cabinet (R), disconnect the following connectors.
 1. VC-235 board CN1105 (45P, 0.5 mm)
 2. VC-235 board CN1109 (8P, 1.0 mm)
- 4) The lens block (CD-242/244/266/267/270/271 board) and the intelligent accessory shoe need not be connected except during "Battery end adjustment". To remove, disconnect the following connectors.
 1. VC-235 board CN1501 (16P, 0.5 mm)
 2. VC-235 board CN1551 (24P, 0.5 mm)
 3. Intelligent accessory shoe (8P, 0.8 mm)

Note 1: Setting the "Forced VTR Power ON" mode (VTR mode)

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the VTR power to be turned on with the power switch (SS-10000 block) removed.
After completing adjustments, be sure to exit the "Forced VTR Power ON mode".

Note 2: Setting the "Forced Camera Power ON" mode (Camera mode)

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the camera power to be turned on with the power switch (SS-10000 block) removed.
After completing adjustments, be sure to exit the "Forced Camera Power ON mode".

Note 3: Setting the "Forced Memory Power ON" mode (Memory mode)

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 05, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the memory power to be turned on with the power switch (SS-10000 block) removed.
After completing adjustments, be sure to exit the "Forced Memory Power ON mode".

Note 4: Exiting the "Forced Power ON" mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

Note 5: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P

3 LCD model: DCR-TRV420E/TRV525

3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/
TRV620E

4 LCD model: DCR-TRV720/TRV720E

	CF board
2.5 LCD model	CF-69
3/3.5 LCD model	CF-70
4 LCD model	CF-72

Note 6: 720H model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720

960H model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

		CD board
720H model	2.5 LCD model	CD-242
	3/3.5 LCD model	CD-266
	4 LCD model	CD-270
960H model	2.5 LCD model	CD-244
	3/3.5 LCD model	CD-267
	4 LCD model	CD-271

3-1-3. Adjusting Connectors

Some of the adjusting points of the video section are concentrated at VC-235 board CN1108. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). The following table lists the pin numbers and signal names of CN1108.

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	F0 ADJ RF IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

Table 5-3-1

3-1-4. Connecting the Equipment

Connect the measuring instruments as shown in Fig. 5-3-2 and perform the adjustments.

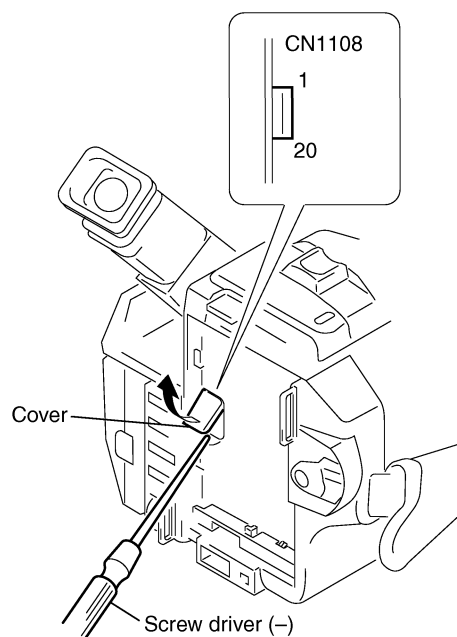


Fig. 5-3-1

Connecting the TV Monitor and Regulated Power Supply

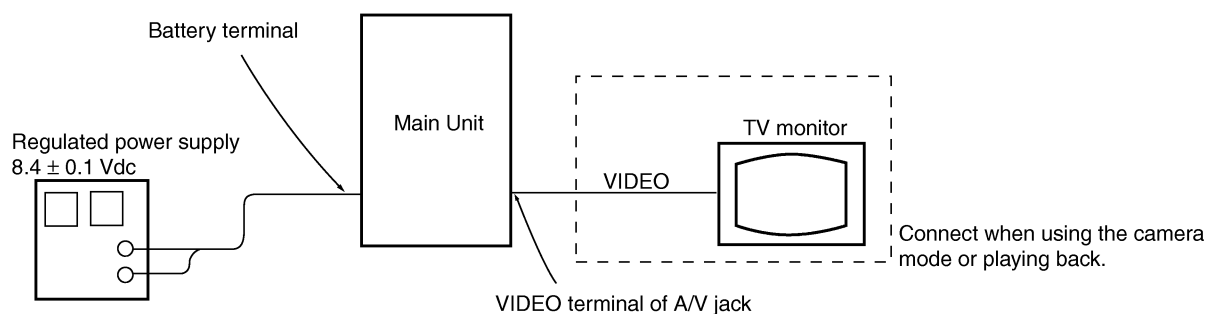


Fig. 5-3-2

3-1-5. Alignment Tape

The following table lists alignment tapes which are available.
Use the tape specified in the signal column for each adjustment. If the type of tape to be used for checking operations is not specified, use whichever type.

Digital8 alignment tape

Name	Usage
SW/OL standard (WR5-2D)	Switching position adjustment
Audio operation check (WR5-3ND (NTSC), WR5-3CD (PAL))	Audio system adjustment
System operation check (WR5-5ND (NTSC), WR5-5CD (PAL))	Operation check

Hi8/standard 8 mm alignment tape

Name	Recording mode	Tape type	Tape speed	Usage
Tracking (WR5-1NP (NTSC), WR5-1CP (PAL))	Standard 8 mm	MP	SP	Tape path adjustment, Switching position adjustment
Video frequency characteristics (WR5-7NE (NTSC), WR5-7CE (PAL))	Hi8	ME	SP (NTSC) LP (PAL)	Frequency characteristics adjustment
Operation check (WR5-5NSP (NTSC), WR5-5CSP (PAL))	Standard 8 mm	MP	SP	Operation check
Operation check (WR5-8NSE (NTSC), WR5-8CSE (PAL))	Hi8	ME	SP	
Operation check (WR5-4NL (NTSC), WR5-4CL (PAL))	Standard 8 mm	MP	LP	
Operation check (WR5-8NLE (NTSC), WR5-8CLE (PAL))	Hi8	ME	LP	
AFM stereo operation check WR5-9NS (NTSC), WR5-9CS (PAL)	Standard 8 mm	MP	SP	AFM stereo Operation check
BPF adjustment WR5-11NS (NTSC), WR5-11CS (PAL)	Standard 8 mm	MP	SP	BPF adjustment

Tape type

ME Particle type metal tape

MP Evaporated type metal tape

Table 5-3-2

Fig. 5-3-3 Shows the color bar signals recorded on the alignment tape.

Note: Measure using the VIDEO terminal (Terminated at 75 Ω).

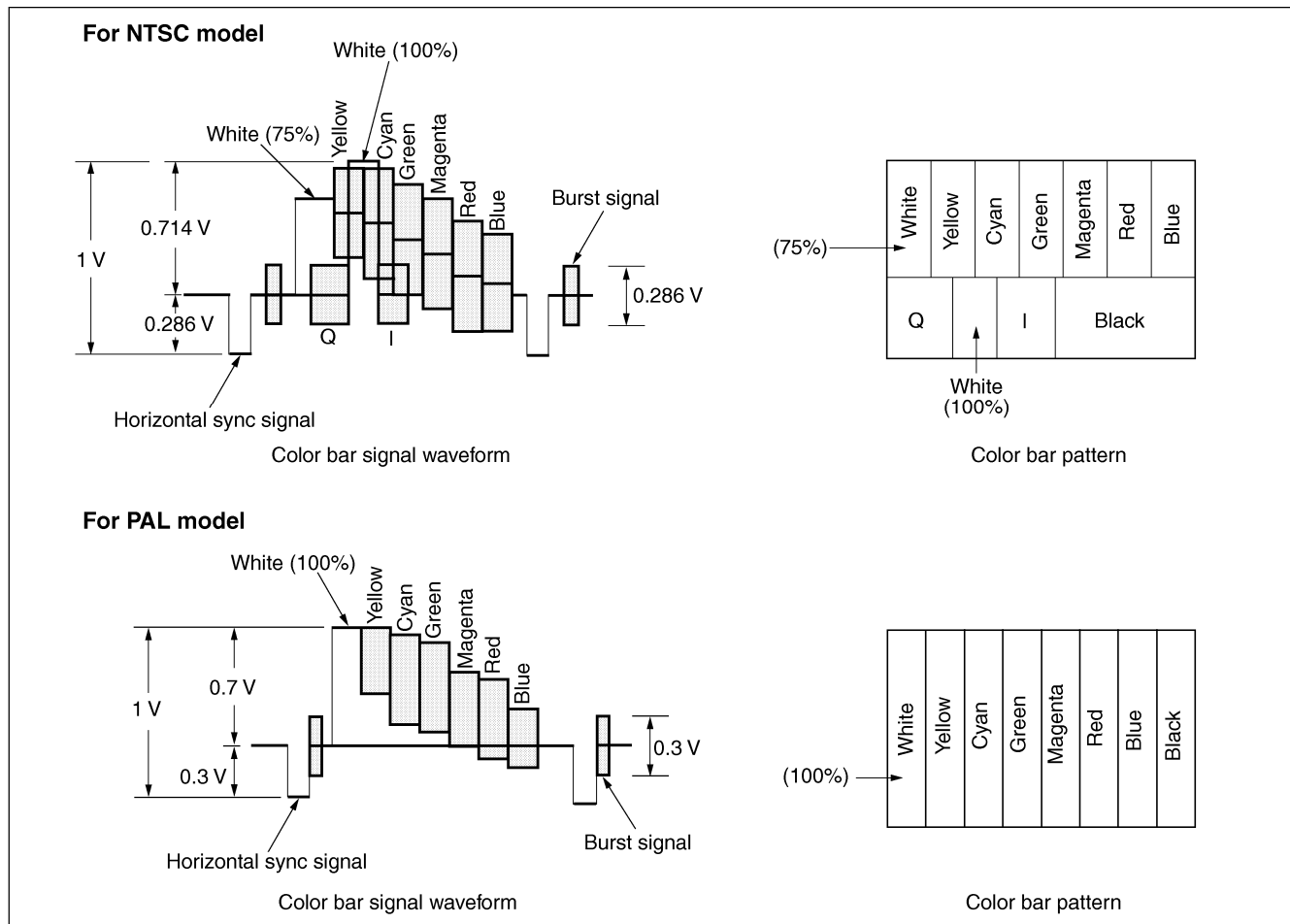


Fig. 5-3-3 Color Bar Signal of the Alignment Tape

3-1-6. Input/output Level and Impedance

Video input/output

Phono jack, 1 Vp-p, 75 Ω , unbalanced, sync negative

S video input/output

4-pin mini DIN

Luminance signal:

1 Vp-p, 75 Ω , unbalanced, sync negative

Chrominance signal:

0.286 Vp-p, 75 Ω , unbalanced (NTSC)

0.300 Vp-p, 75 Ω , unbalanced (PAL)

Audio input/output

Phono jack:

Input: -7.5 dBs, input impedance more than 47 k Ω

Output: -7.5 dBs, (at load impedance 47 k Ω), output impedance less than 2.2 k Ω

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENT

1. Initialization of 7, 8, C, D, E, F Page Data

If the 7, 8, C, D, E, F page data is erased due to some reason, perform “1-2. INITIALIZATION OF 7, 8, C, D, E, F PAGE DATA”, of “5-1. CAMERA SECTION ADJUSTMENT”

2. Node Unique ID No. Input

Note 1: Perform “2-2. Input of Serial No.” if the data on page C has been cleared and the node unique ID No. is not found.

2-1. Input of Company ID

Write the company ID to the EEPROM (nonvolatile memory).

Page	C
Address	E8, E9, EA, EB, EC

Input method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Enter the following data.

Note 2: Each time the data is set, press the PAUSE button on the adjusting remote commander.

Address	Data
E8	08
E9	00
EA	46
EB	01
EC	01

- 3) Select page: 0, address: 01, and set data: 00.

2-2. Input of Serial No.

Write the serial No. and model code to the EEPROM (nonvolatile memory).

In writing the serial No., a decimal number should be converted into a hexadecimal number.

Page	C
Address	ED, EE, EF

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Read the serial No. from the model name label, and it is assumed to be D₁.
Example: If serial No. is “77881”,
D₁ = 77881
- 3) From Table 5-3-3, obtain D₂ and H₁ that correspond to D₁.
Example: If D₁ = 77881,
D₂ = D₁ – 65536 = 12345
H₁ = 00

D ₁ (decimal)	D ₂ (decimal) (Service model code)	H ₁ (hexadecimal)
00001 to 65535	D ₁	00
65536 to 131071	D ₁ – 65536	00
131072 to 196607	D ₁ – 131072	00
196608 to 262143	D ₁ – 196608	00

Table 5-3-3

- 4) Enter H₁ to address: ED on page: C.
Example: If H₁ = 00,
select page: C, address: ED, and set data: 00, then press the PAUSE button.
- 5) From Table 5-3-4, obtain the maximum decimal number less than D₂, and it is assumed to be D₃.
Example: If D₂ = 12345,
D₃ = 12288
- 6) From Table 5-3-4, obtain a hexadecimal number that corresponds to D₃, and it is assumed to be H₃.
Example: If D₃ = 12288,
H₃ = 3000
- 7) Calculate D₄ using following equations (decimal calculation).
(0 ≤ D₄ ≤ 225)
D₄ = D₂ – D₃
Example: If D₂ = 12345 and D₃ = 12288,
D₄ = 12345 – 12288 = 57
- 8) Convert D₄ into a hexadecimal number to obtain H₄. (See Table 5-4-1 “Hexadecimal - decimal conversion table” in 5-4. Service Mode)
Example: If D₄ = 57,
H₄ = 39
- 9) Enter higher two digits of H₃ to address: EE on page: C.
Example: If H₃ = 3000,
select page: C, address: EE, and set data: 30, then press the PAUSE button.
- 10) Enter H₄ to address: EF on page: D.
Example: If H₄ = 39,
select page: C, address: EF, and set data: 39, then press the PAUSE button.
- 11) Select page: 0, address: 01, and set data: 00.

D ₃	H ₃	D ₃	H ₃	D ₃	H ₃	D ₃	H ₃	D ₃	H ₃	D ₃	H ₃	D ₃	H ₃	D ₃	H ₃
0	0000	8192	2000	16384	4000	24576	6000	32768	8000	40960	A000	49152	C000	57344	E000
256	0100	8448	2100	16640	4100	24832	6100	33024	8100	41216	A100	49408	C100	57600	E100
512	0200	8704	2200	16896	4200	25088	6200	33280	8200	41472	A200	49664	C200	57856	E200
768	0300	8960	2300	17152	4300	25344	6300	33536	8300	41728	A300	49920	C300	58112	E300
1024	0400	9216	2400	17408	4400	25600	6400	33792	8400	41984	A400	50176	C400	58368	E400
1280	0500	9472	2500	17664	4500	25856	6500	34048	8500	42240	A500	50432	C500	58624	E500
1536	0600	9728	2600	17920	4600	26112	6600	34304	8600	42496	A600	50688	C600	58880	E600
1792	0700	9984	2700	18176	4700	26368	6700	34560	8700	42752	A700	50944	C700	59136	E700
2048	0800	10240	2800	18432	4800	26624	6800	34816	8800	43008	A800	51200	C800	59392	E800
2304	0900	10496	2900	18688	4900	26880	6900	35072	8900	43264	A900	51456	C900	59648	E900
2560	0A00	10752	2A00	18944	4A00	27136	6A00	35328	8A00	43520	AA00	51712	CA00	59904	EA00
2816	0B00	11008	2B00	19200	4B00	27392	6B00	35584	8B00	43776	AB00	51968	CB00	60160	EB00
3072	0C00	11264	2C00	19456	4C00	27648	6C00	35840	8C00	44032	AC00	52224	CC00	60416	EC00
3328	0D00	11520	2D00	19712	4D00	27904	6D00	36096	8D00	44288	AD00	52480	CD00	60672	ED00
3584	0E00	11776	2E00	19968	4E00	28160	6E00	36352	8E00	44544	AE00	52736	CE00	60928	EE00
3840	0F00	12032	2F00	20224	4F00	28416	6F00	36608	8F00	44800	AF00	52992	CF00	61184	EF00
4096	1000	12288	3000	20480	5000	28672	7000	36864	9000	45056	B000	53248	D000	61440	F000
4352	1100	12544	3100	20736	5100	28928	7100	37120	9100	45312	B100	53504	D100	61696	F100
4608	1200	12800	3200	20992	5200	29184	7200	37376	9200	45568	B200	53760	D200	61952	F200
4864	1300	13056	3300	21248	5300	29440	7300	37632	9300	45824	B300	54016	D300	62208	F300
5120	1400	13312	3400	21504	5400	29696	7400	37888	9400	46080	B400	54272	D400	62464	F400
5376	1500	13568	3500	21760	5500	29952	7500	38144	9500	46336	B500	54528	D500	62720	F500
5632	1600	13824	3600	22016	5600	30208	7600	38400	9600	46592	B600	54784	D600	62976	F600
5888	1700	14080	3700	22272	5700	30464	7700	38656	9700	46848	B700	55040	D700	63232	F700
6144	1800	14336	3800	22528	5800	30720	7800	38912	9800	47104	B800	55296	D800	63488	F800
6400	1900	14592	3900	22784	5900	30976	7900	39168	9900	47360	B900	55552	D900	63744	F900
6656	1A00	14848	3A00	23040	5A00	31232	7A00	39424	9A00	47616	BA00	55808	DA00	64000	FA00
6912	1B00	15104	3B00	23296	5B00	31488	7B00	39680	9B00	47872	BB00	56064	DB00	64256	FB00
7168	1C00	15360	3C00	23552	5C00	31744	7C00	39936	9C00	48128	BC00	56320	DC00	64512	FC00
7424	1D00	15616	3D00	23808	5D00	32000	7D00	40192	9D00	48384	BD00	56576	DD00	64768	FD00
7680	1E00	15872	3E00	24064	5E00	32256	7E00	40448	9E00	48640	BE00	56832	DE00	65024	FE00
7936	1F00	16128	3F00	24320	5F00	32512	7F00	40704	9F00	48896	BF00	57088	DF00	65280	FF00

Note: D₃: Decimal
H₃: Hexadecimal

Table 5-3-4

3. Battery End Adjustment (VC-235 board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten.
The image at the battery end will also be rough.

Mode	Camera recording
Subject	Arbitrary
Measurement Point	LCD display of the adjustment remote commander
Measuring Instrument	
Adjustment Page	D
Adjustment Address	48, 49

Note: The lens block and cabinet (R) must be connected.

Switch setting:

- 1) AUTO FOCUS OFF
- 2) LCD screen Closed
- 3) NIGHT SHOT OFF

Connection:

- 1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-3-4.

Adjusting method:

- 1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1 Vdc.
- 2) Turn off the power supply.
- 3) Turn on the HOLD switch of the adjustment remote commander.
- 4) Turn on the power supply.
- 5) Load a cassette, and set to the camera recording mode.
- 6) Select page: 0, address: 01, and set data: 01.
- 7) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.30 ± 0.01 Vdc.
- 8) Select page: 2, address: 5D, read the data, and this data is named Dref.
- 9) Select page: D, address: 48, set data: Dref, and press the PAUSE button of the adjustment remote commander.
- 10) Convert Dref to decimal notation, and obtain Dref'. (Refer to Table 5-4-1 "Hexadecimal-decimal conversion table" of "5-4. Service Mode")
- 11) Calculate D49' using following equations (decimal calculation), convert it to a hexadecimal number, and obtain D49.
 $D_{49}' = D_{ref}' + 8$
- 12) Select page: D, address: 49, set data D49, and then press the PAUSE button of adjustment remote commander.
- 13) Select page: 0, address: 01, and set data: 00.

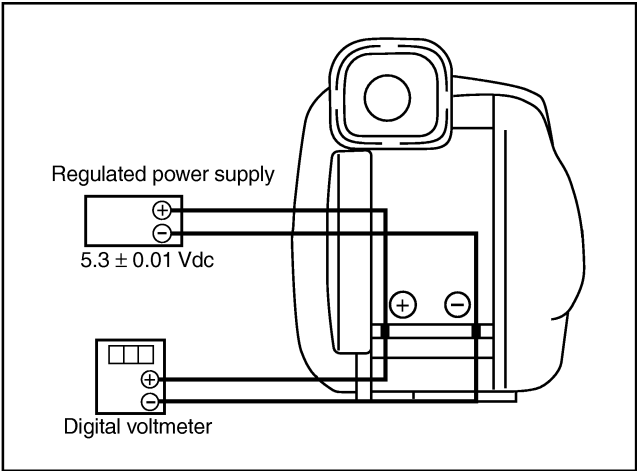


Fig. 5-3-4

3-3. SERVO AND RF SYSTEM ADJUSTMENTS

Before perform the servo and RF system adjustments, check that the specified value of “27 MHz/36MHz Origin Oscillation Adjustment” of “3-4. VIDEO SYSTEM ADJUSTMENT” is satisfied.

Adjusting Procedure:

1. REEL FG adjustment
2. PLL f_0 & LPF f_0 Pre-adjustment
3. Switching position adjustment
4. AGC center level adjustment
5. APC & AEQ adjustment
6. PLL f_0 & LPF f_0 final adjustment
7. Hi8/standard 8 mm switching position adjustment
8. CAP FG offset adjustment

1. REEL FG Adjustment (VC-235 board)

Mode	VTR stop
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	17, 30
Specified Value	Bit values of bit 1 and bit 3 are “0”

Adjusting method:

- 1) Close the cassette compartment without loading a cassette and complete loading.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 3, address: 01, set data: 1C, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 3, address: 02, and check that the data changes to “00”.
- 5) Select page: 3, address: 03, and check that bit values of bit 1 and bit 3 are “0”.
If bit value of bit 1 and bit 3 is “1”, there are errors. For the error contents, see the following table. (For the bit values, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”)

Bit value of page: 3, address: 03	Error contents
bit 3 = 1	S REEL is defective
bit 1 = 1	T REEL is defective

- 6) Select page: 0, address: 01, and set data: 00.

2. PLL f_0 & LPF f_0 Pre-adjustment (VC-235 board)

Mode	VTR stop
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	1F, 20, 22, 29
Specified Value	Bit values of bit 2, bit 3 and bit 6 are “0”

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 02, and check that the data changes to “00”.
- 4) Select page: 3, address: 03, and check that bit values of bit2, bit3 and bit6 are “0”.
If bit value of bit 2, bit 3 or bit 6 is “1”, there are errors. For the error contents, see the following table. (For the bit values, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”)

Bit value of page: 3, address: 03	Error contents
bit 6 = 1	LPF f_0 adjustment is defective
bit 3 = 1	PLL f_0 , fine adjustment is defective
bit 2 = 1	PLL f_0 , fine adjustment is defective

If bit value of bit 2 or bit 3 is “1”, select page: C, address: 21, set the following data, and press the PAUSE button, and repeat steps 2) to 4).

	Setting data
When the data of page: C, address: 21 is “CA”	CE
When the data of page: C, address: 21 is “CE”	C6
When the data of page: C, address: 21 is “C6”	D2
When the data of page: C, address: 21 is “D2”	C2

- 5) Select page: 0, address: 01, and set data: 00.

3. Switching Position Adjustment (VC-235 board)

To obtain normal playback waveform output, adjust the switching position.

Mode	VTR playback
Signal	Digital8 alignment tape : SW/OL standard (WR5-2D)
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	10, 11, 12, 13
Specified Value	00

Adjusting method:

- 1) Insert the Digital8 SW/OL reference tape and enter the VTR STOP mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 3, address: 21, and check that the data is "02".
Note: If the data of page: 3, address: 21 is other than "72", the tape top being played. After playing the tape for 1 to 2 seconds, perform step 4) and higher.
If the data of page: 3, address: 21 is other than "62", the tape end being played. After rewind the tape, perform step 4) and higher.
- 4) Select page: 3, address: 01, set data: 0D, and press the PAUSE button of the adjustment remote commander.
- 5) Select page: 3, address: 02, wait data for stable condition as "00".
- 6) Select page: 3, address: 03, and check that the data is "00".
Note: If bit 0 of page: 3, address: 03 data is "1", the A channel is defective. If bit 1 is "1", the B channel is defective. Contents of the defect is written into page: C, addresses: 10 and 12. See the following table. (For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination")
- 7) Select page: 0, address: 01, and set data: 00.

When the A channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into EEPROM (IC4502) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC3301 (CAIN)

When the B channel is defective

Data of page: C, address: 12	Contents of defect
E8	Adjustment data is out of range
E7	No data is returned from IC3301 (CAIN)

4. AGC Center Level Adjustment (VC-235 board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin ⑩ of CN1108 (RF MON) (Note 1) External trigger : Pin ⑬ of CN1108 (DV RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	1E
Specified Value	The display data of page: 3, address: 03 is "00"

Note 1: Connect a 75 Ω resistor between Pin ⑩ and Pin ⑥ (GND) of CN1108.

75 Ω resistor (Parts code: 1-247-804-11)

Note 2: Use a Hi8 MP tape.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 8, address: 2A, set data: C8, and press the PAUSE button of the adjustment remote commander.
- 3) Record the camera signal for a minute.
- 4) Select page: 2, address: 2E, and set data: 01.
- 5) Playback the recorded segment.
- 6) Select page: 3, address: 33, and set data: 08.
- 7) Confirm that the playback RF signal is stable.
- 8) Select page: 3, address: 01, set data: 23, and press the PAUSE button.
- 9) Select page: 3, address: 02, and check that the data is "00".
- 10) Select page: 3, address: 03, and check that the data is "00".
Note 3: If the data of page: 3, address: 03 is other than "00", adjustment has errors.
- 11) Select page: 3, address: 33, and set data: 00.
- 12) Select page: 2, address: 2E, and set data: 00.
- 13) Select page: 8, address: 2A, set data: 00, and press the PAUSE button.
- 14) Select page: 0, address: 01, and set data: 00.

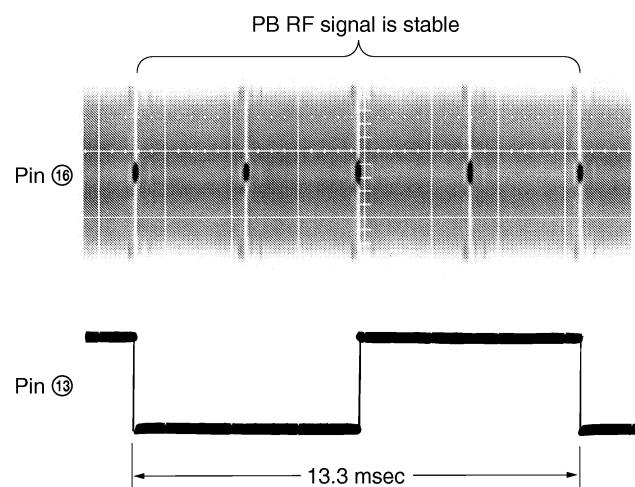


Fig. 5-3-5

5. APC & AEQ Adjustment (VC-235 board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin ⑩ of CN1108 (RF MON) (Note 1) External trigger : Pin ⑬ of CN1108 (DV RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	18, 19, 1B, 1C, 21, 2C
Specified Value	The display data of page: 3, address: 03 is "00"

Note 1: Connect a 75 Ω resistor between Pin ⑩ and Pin ⑥ (GND) of CN1108.

75 Ω resistor (Parts code: 1-247-804-11)

Note 2: Use a Hi8 MP tape.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 8, address: 2A, set data: C8, and press the PAUSE button of the adjustment remote commander.
- 3) Record the camera signal for a minute.
- 4) Select page: 2, address: 2E, and set data: 01.
- 5) Playback the recorded segment.
- 6) Select page: 3, address: 33, and set data: 08.
- 7) Confirm that the playback RF signal is stable.
- 8) Select page: 3, address: 01, set data: 07, and press the PAUSE button.
- 9) Select page: 3, address: 02, and check that the data changes from "07" to "00" in about 20 seconds after pressing the PAUSE button.
- 10) Select page: 3, address: 03, and check that the data is "00".

Note 3: If the data of page: 3, address: 03 is other than "00", adjustment has errors.

- 11) Select page: 3, address: 33, and set data: 00.
- 12) Select page: 2, address: 2E, and set data: 00.
- 13) Select page: 8, address: 2A, set data: 00, and press the PAUSE button.
- 14) Select page: 0, address: 01, and set data: 00.

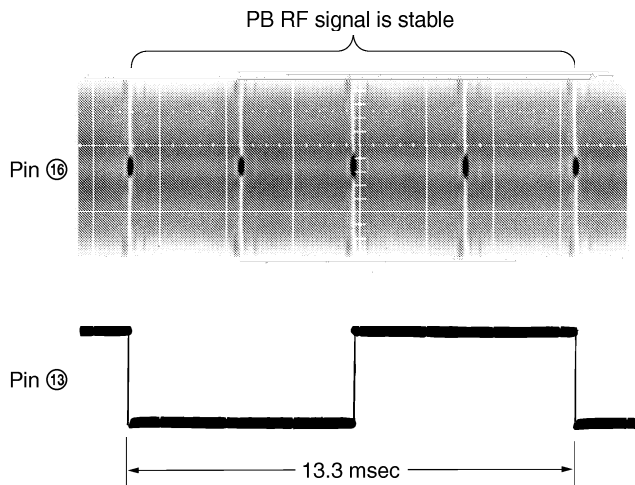


Fig. 5-3-6

6. PLL f_0 & LPF f_0 Final Adjustment (VC-235 board)

Mode	VTR stop
Signal	Arbitrary
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	1F, 20, 22, 29
Specified Value	Bit values of bit2, bit3 and bit6 are "0"

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 02, and check that the data changes to "00".
- 4) Select page: 3, address: 03, and check that bit values of bit2, bit3 and bit6 are "0".

Note: If bit value of bit 2, bit 3 or bit 6 is "1", there are errors. For the error contents, see the following table. (For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination")

Bit value of page: 3, address: 03	Error contents
bit 6 = 1	LPF f_0 adjustment is defective
bit 3 = 1	PLL f_0 , fine adjustment is defective
bit 2 = 1	PLL f_0 , fine adjustment is defective

- 5) Select page: 0, address: 01, and set data: 00.

7. Hi8/standard 8 mm Switching Position Adjustment (VC-235 board)

If deviated in this case causes switching noise or jitter on the Hi8/standard 8 mm mode played back screen.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For tracking adjustment (WR5-1NP (NTSC)) (WR5-1CP (PAL))
Measurement Point	CH1: Pin ⑧ of CN1108 (VC RF SWP) CH2: Pin ⑤ of CN1108 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	62, 63
Specified Value	$t_1 = 0 \pm 10 \mu\text{sec}$

Adjusting Method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 22, set data: C0, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 2, address: 2E, and set data: 02.
- 4) Set to the playback mode.
- 5) Select page: F, address: 62, change the data and minimize "t1", and then press the PAUSE button. (Coarse adjustment)
- 6) Select page: F, address: 63, change the data and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
- 7) Press the PAUSE button.
- 8) Select page: F, address: 22, set data: 80, and press the PAUSE button.
- 9) Select page: 2, address: 2E, and set data: 00.
- 10) Select page: 0, address: 01, and set data: 00.

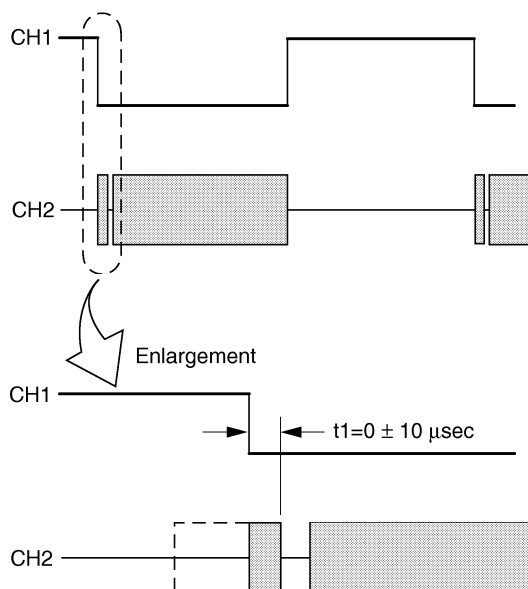


Fig. 5-3-7

8. CAP FG Duty Adjustment (VC-235 board)

Improve the capstan servo characteristic. If it is not correct, jitters will increase.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For checking operation (WR5-5NSP (NTSC)) (WR5-5CSP (PAL))
Measurement Point	Pin ⑮ of CN1108 (CAP FG)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	64
Specified value	Duty=50 ± 1%

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 2E, and set data: 02.
- 3) Set to the playback mode.
- 4) Select page: 6, address: 01, set data: 81, and press the PAUSE button of the adjustment remote commander. (to start up automatic CAP FG offset adjustment)
- 5) Select page: 6, address: 02, and check that the data is "01".
- 6) Check that Duty of CAP FG signal satisfies the specified value. If not, select page: 6, address: 01, set data: 00, and press the PAUSE button, and then, repeat steps 4) to 6).
- 7) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 8) Select page: 2, address: 2E, and set data: 00.
- 9) Select page: 0, address: 01, and set data: 00.

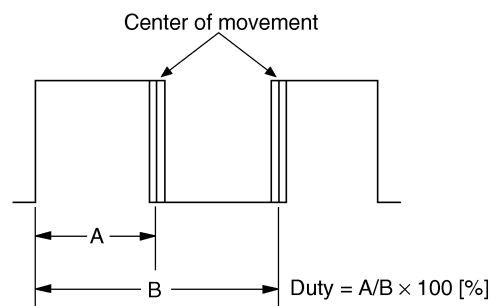


Fig. 5-3-8

3-4. VIDEO SYSTEM ADJUSTMENTS

3-4-1. Video System Adjustments

Adjusting Procedure:

1. 27 MHz/36 MHz origin oscillation adjustment
2. Chroma BPF f_0 adjustment
3. S VIDEO OUT Y Level Adjustment
4. S VIDEO OUT chroma level adjustment
5. VIDEO OUT Y, chroma level check
6. Hi8/standard 8 mm AFC f_0 adjustment

1. 27 MHz/36 MHz Origin Oscillation Adjustment (VC-235 board)

Set the oscillation frequency of X1501.

If deviated, the synchronization will be disrupted and the color will become inconsistent.

Note: 27 MHz 720H model

36 MHz 960H model

720H model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720

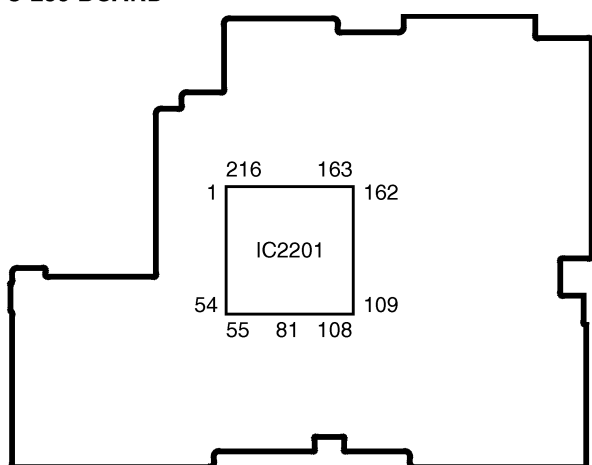
960H model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

Mode	Camera
Measurement Point	Pin ⑧ of IC2201
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	4D
Specified Value	$f=13500000 \pm 68 \text{ Hz}$

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 4D, change the data and set the clock frequency(f) to the specified value.
- 3) Press the PAUSE button of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 00.

VC-235 BOARD



2. Chroma BPF f_0 Adjustment (VC-235 board)

Set the center frequency of IC3701 chroma band-pass filter.

Mode	VTR stop
Signal	No signal
Measurement Point	CH1: Chroma signal terminal of S VIDEO jack (75 Ω terminated) CH2: Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	28
Specified Value	A = 100 mVp-p or less B = 200 mVp-p or more

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 3) Check that the burst signal (B) is output to the chroma signal terminal of S VIDEO jack.
- 4) Select page: 3, address: 0C, set data: 04, and press the PAUSE button.
- 5) Select page: C, address: 28, and change the data for minimum amplitude of the burst signal level (A).
(The data of address: 28, should be "00" to "07")
- 6) Press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Check that the burst signal level (B) satisfies the specified value.
- 9) Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 10) Select page: 0, address: 01, and set data: 00.

When the data of page: 3, address: 0C, is 04:

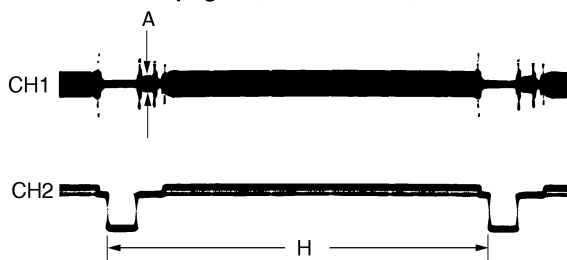


Fig. 5-3-9

When the data of page: 3, address: 0C, is 00:

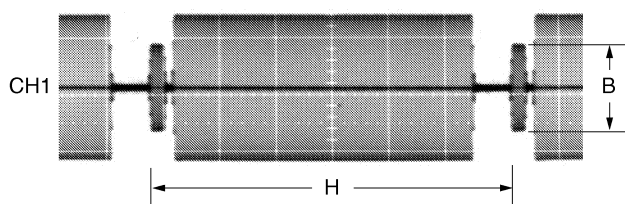


Fig. 5-3-10

3. S VIDEO OUT Y Level Adjustment (VC-235 board)

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	25
Specified Value	$A = 1000 \pm 20$ mV

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
- 4) Select page: C, address: 25, change the data and set the Y signal level (A) to the specified value.
- 5) Press the PAUSE button.
- 6) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 7) Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

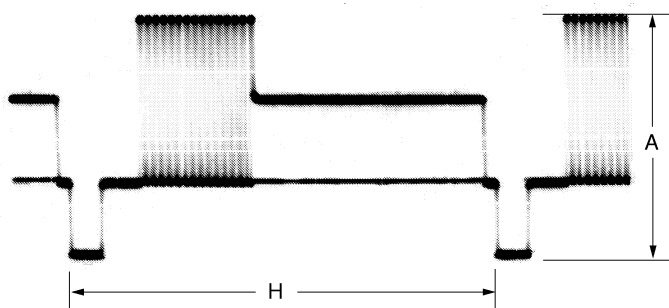


Fig. 5-3-11

4. S VIDEO OUT Chroma Level Adjustment (VC-235 board)

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Chroma signal terminal of S VIDEO jack (75 Ω terminated) External trigger: Y signal terminal of S VIDEO jack
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	26, 27
Specified Value	Cr level: $A=714 \pm 14$ mV (NTSC) $A=700 \pm 14$ mV (PAL) Cb level: $B=714 \pm 14$ mV (NTSC) $B=700 \pm 14$ mV (PAL) Burst level: $C=286 \pm 6$ mV (NTSC) $C=300 \pm 6$ mV (PAL)

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
- 4) Select page: C, address: 26, change the data and set the Cr signal level (A) to the specified value.
- 5) Press the PAUSE button.
- 6) Select page: C, address: 27, change the data and set the Cb signal level (B) to the specified value.
- 7) Press the PAUSE button.
- 8) Check that the burst signal level (C) is satisfied the specified value.
- 9) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 10) Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 11) Select page: 0, address: 01, and set data: 00.

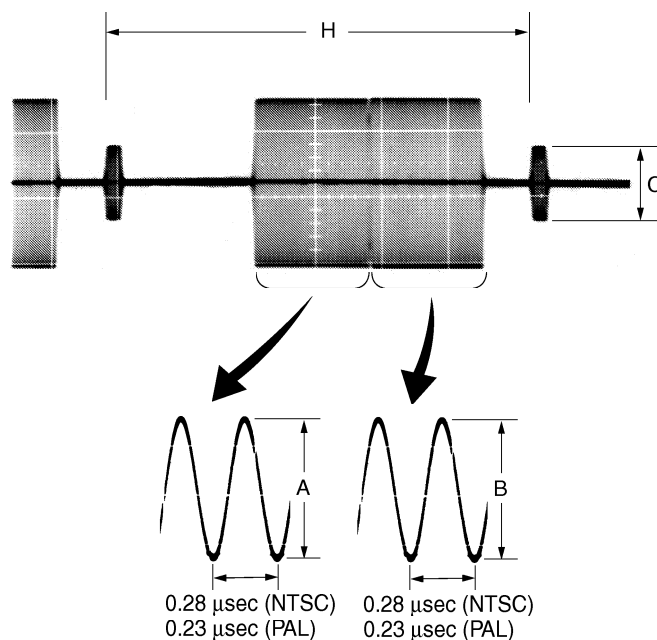


Fig. 5-3-12

5. VIDEO OUT Y, Chroma Level Check (VC-235 board)

Mode	VTR stop
Subject	Arbitrary
Measurement Point	VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Specified Value	Sync level: A=286 \pm 18 mV (NTSC) A=307 \pm 18 mV (PAL) Burst level: B=286 \pm 18 mV (NTSC) B=300 \pm 18 mV (PAL)

Adjusting method:

- 1) Select page: 0, address: 01, set data: 01.
- 2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
- 4) Check that the sync signal level (A) satisfies the specified value.
- 5) Check that the burst signal level (B) satisfies the specified value.
- 6) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 7) Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, set data: 00.

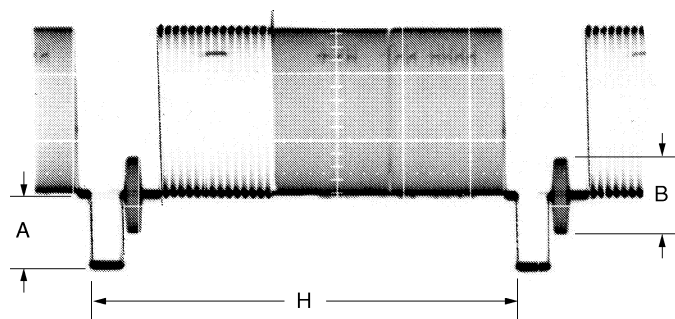


Fig. 5-3-13

6. Hi8/standard 8 mm AFC f₀ Adjustment (VC-235 board) (Using Digital Voltmeter)

Adjust the pull-in range of the clock generator (IC2201) for A/D conversion during Hi8/standard 8 mm playback.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ② of CN1108 (AFC F0)
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	65
Specified Value	A=2.00 \pm 0.05 Vdc

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0D, set data: 04, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 6, address: 63, set data: 04.
- 4) Select page: 6, address: 6F, set data: 01.
- 5) Select page: F, address: 65, change the data and set the DC voltage (A) to the specified value.
- 6) Press the PAUSE button.
- 7) Select page: 3, address: 0D, set data: 00, and press the PAUSE button.
- 8) Select page: 6, address: 63, set data: 00.
- 9) Select page: 6, address: 6F, set data: 00.
- 10) Select page: 0, address: 01, and set data: 00.

7. Hi8/standard 8 mm AFC f₀ Adjustment (VC-235 board) (Auto Adjustment)

Adjust the pull-in range of the clock generator (IC2201) for A/D conversion during Hi8/standard 8 mm playback.

Mode	VTR stop
Signal	No signal
Measurement Point	Display data of Page: 6, Address: 6E
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	65
Specified Value	B2 to BA

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0D, set data: 04, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 6, address: 63, set data: 04.
- 4) Select page: 6, address: 6F, set data: 01.
- 5) Select page: 6, address: 01, set data: C5, and press the PAUSE button.
- 6) Select page: 6, address: 02, and check that the data is "01".
- 7) Select page: 6, address: 6E, and check that the display data satisfies the specified value.
- 8) Select page: 3, address: 0D, set data: 00, and press the PAUSE button.
- 9) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 10) Select page: 6, address: 63, set data: 00.
- 11) Select page: 6, address: 6F, set data: 00.
- 12) Select page: 0, address: 01, and set data: 00.

3-5. IR TRANSMITTER ADJUSTMENTS

Adjust using a IR receiver jig (J-6082-383-A).

Switch setting:

LASER LINK ON (Red LED is lit)

1. IR Video Carrier Frequency Adjustment (MI-37 board)

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑤ of CN003 of IR receiver jig (RF)
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	80
Specified Value	f=11.85 ± 0.05 MHz (NTSC model) f=11.55 ± 0.05 MHz (PAL model)

Note: NTSC model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720

PAL model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

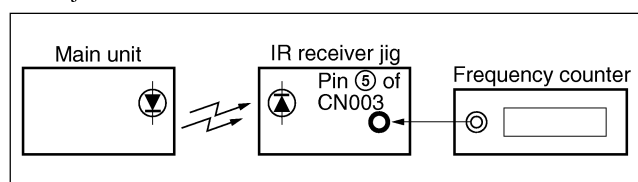


Fig. 5-3-14

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 08, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: F, address: 80, change the data, and set the video carrier frequency (f) to the specified value.
- 4) Press the PAUSE button.
- 5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 6) Select page: 0, address: 01, and set data: 00.

2. IR Video Deviation Adjustment (MI-37 board)

Mode	VTR stop
Signal	No signal
Measurement Point	VIDEO OUT terminal of IR receiver jig (Terminated at 75 Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	7E
Specified Value	A=0.82 ± 0.05 V

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

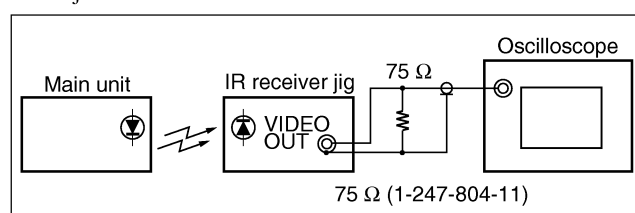


Fig. 5-3-15

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 01, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: F, address: 7E, and change the data, set the video signal amplitude (A) to the specified value.
- 4) Press the PAUSE button.
- 5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 6) Select page: 0, address: 01, and set data: 00.

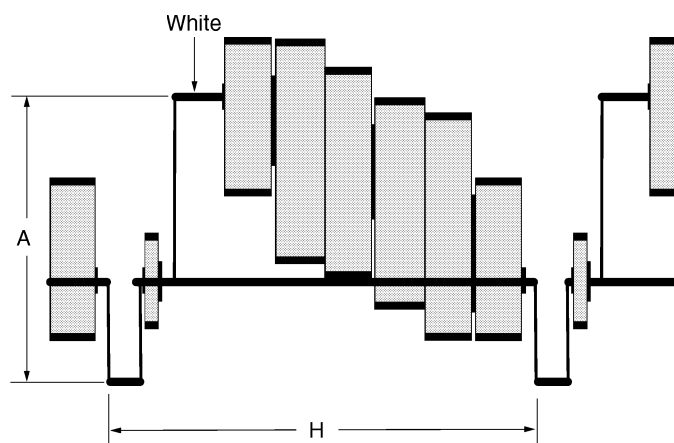


Fig. 5-3-16

3. IR Audio Deviation Adjustment (MI-37 board)

Mode	VTR stop
Signal	Audio signal: 400 Hz, -7.5 dBs: Audio left and right terminal of A/V jack Video signal: Color bar signal: VIDEO terminal of A/V jack
Measurement Point	AUDIO L terminal and AUDIO R terminal of IR receiver jig (Terminated at 47 kΩ)
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	7F
Specified Value	Signal level: -7.5 ± 1.0 dBs Level difference of L and R: Below 2 dB

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Connect the audio level meter to the AUDIO L terminal of the IR receiver jig.
- 3) Select page: F, address: 7F, change the data and set the 400 Hz audio signal level to the specified value.
- 4) Press the PAUSE button.
- 5) Connect the audio level meter to the AUDIO R terminal of the IR receiver jig.
- 6) Check that the 400 Hz audio signal level is within the specified value. If outside, repeat from step 3).
- 7) Select page: 0, address: 01, and set data: 00.

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

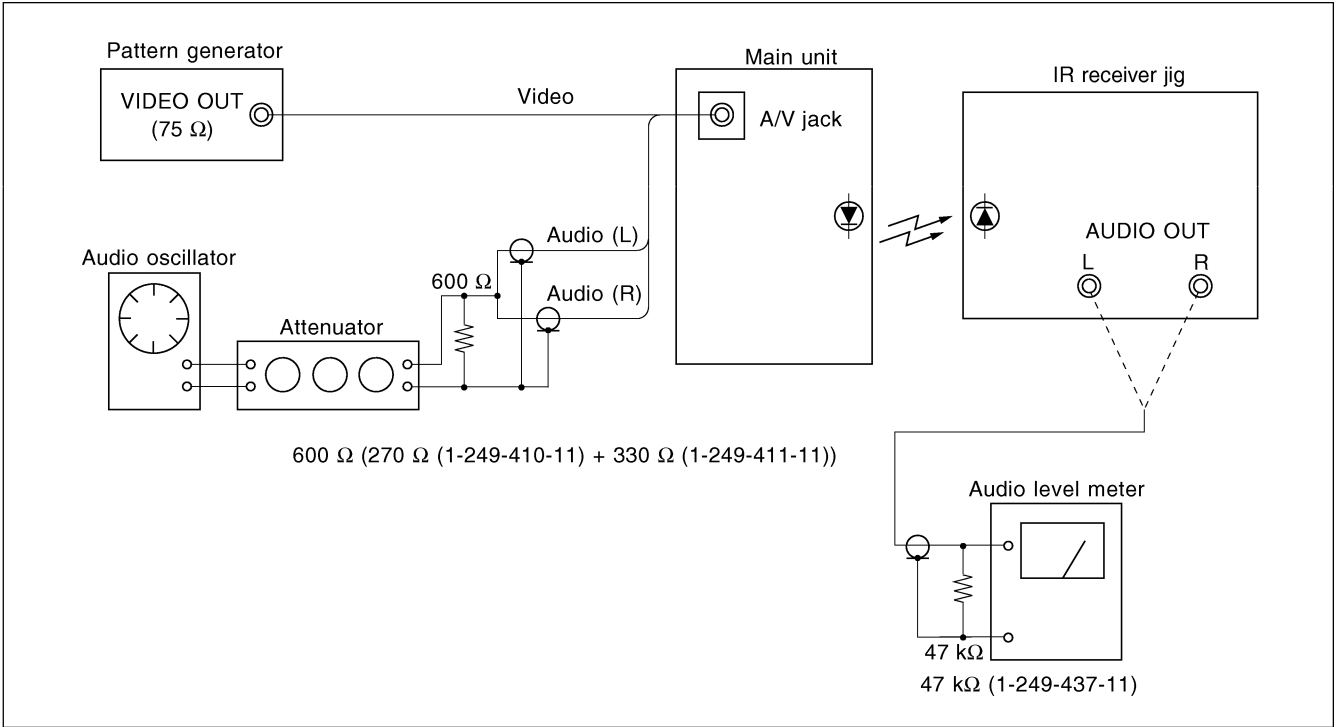


Fig. 5-3-17

3-6. AUDIO SYSTEM ADJUSTMENTS

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 5-3-22.

[Adjustment Procedure]

- 1) Hi8/standard 8 mm AFM BPF f_0 adjustment
- 2) Hi8/standard 8 mm AFM 1.5 MHz deviation adjustment
- 3) Hi8/standard 8 mm AFM 1.7 MHz deviation adjustment
- 4) Digital8 playback level check
- 5) Overall level characteristics check
- 6) Overall distortion check
- 7) Overall noise level check
- 8) Overall separation check

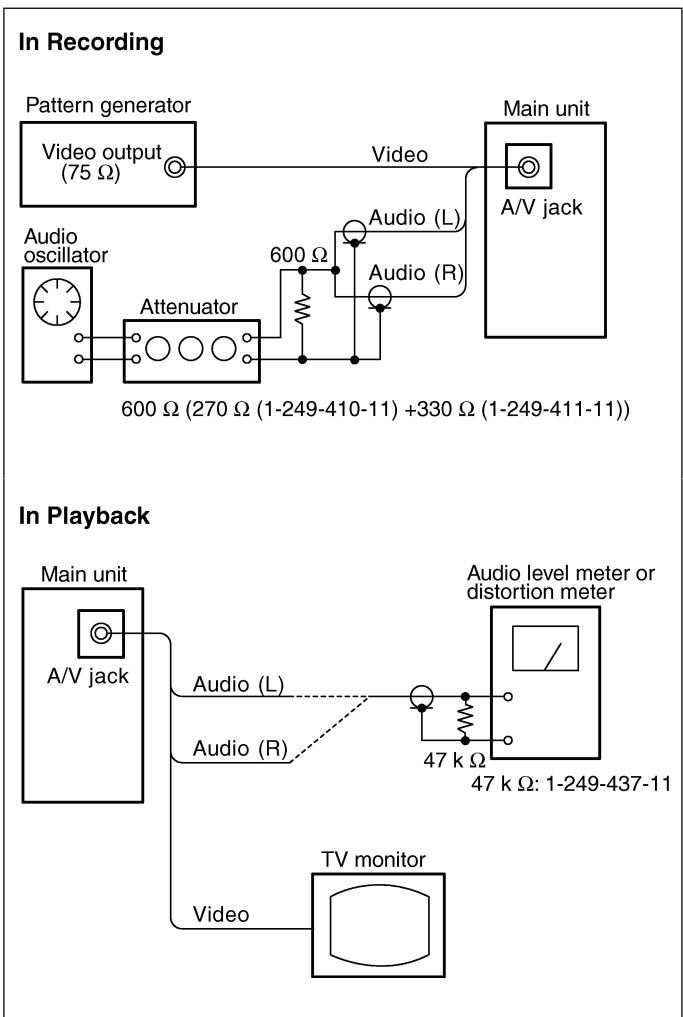


Fig. 5-3-18

1. Hi8/standard 8 mm AFM BPF f_0 Adjustment (VC-235 board)

Sets the BPF passing frequency of IC5701 so that the AFM signal can separate from the playback RF signal properly. If deviated, the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For BPF adjustment (WR5-11NS (NTSC)) (WR5-11CS (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Distortion meter
Adjustment Page	F
Adjustment Address	7D
Specified Value	The Main and Sub channel distortion rate should be almost the same (within $\pm 1\%$) and minimum.

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "2".
- 3) Select page: F, address: 7D, change the data and minimize the distortion rate.
- 4) Press the PAUSE button of the adjustment remote commander.
- 5) Set the Hi-Fi sound switch (menu display) to "1".
- 6) Select page: F, address: 7D, change the data and minimize the distortion rate.
- 7) Press the PAUSE button of the adjustment remote commander.
- 8) Repeat steps 2) to 7) and set the data of address: 7D so that the distortions rates when the Hi-Fi sound switch is set to "2" and set to "1" respectively are almost the same and minimum.
- 9) Press the PAUSE button of the adjustment remote commander.
- 10) Select page: 0, address: 01, and set data: 00.
- 11) Set the Hi-Fi sound switch to "STEREO".

2. Hi8/standard 8 mm AFM 1.5 MHz Deviation Adjustment (VC-235 board)

Adjust to the optimum 1.5 MHz audio FM signal deviation.
If the adjustment is not correct, its playback level will differ from that of other units.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For checking AFM stereo operation Monoscope section (WR5-9NS (NTSC)) (WR5-9CS (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	7B
Specified Value	-7.5 ± 2.0 dBs

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "1".
- 3) Select page: F, address: 7B, change the data and set the 400 Hz signal level to the specified value.
- 4) Press the PAUSE button.
- 5) Set the Hi-Fi sound switch (menu display) to "STEREO".
- 6) Select page: 0, address: 01, and set data: 00.

3. Hi8/standard 8 mm AFM 1.7 MHz Deviation Adjustment (VC-235 board)

Adjust to the optimum 1.7 MHz audio FM signal deviation.
If improper, this causes deteriorated separation (with stereo signal).

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For checking AFM stereo operation Monoscope section (WR5-9NS (NTSC)) (WR5-9CS (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	7C
Specified Value	-7.5 ± 2.0 dBs

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "2".
- 3) Select page: F, address: 7C, change the data and set the 1 kHz signal level to the specified value.
- 4) Press the PAUSE button.
- 5) Set the Hi-Fi sound switch (menu display) to "STEREO".
- 6) Select page: 0, address: 01, and set data: 00.

4. Digital8 Playback Level Check

Mode	VTR playback
Signal	Digital8 alignment tape: For audio operation check (WR5-3ND (NTSC)) (WR5-3CD (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter and frequency counter
Specified Value	32 kHz mode: 1 kHz, $+3.0 \pm 2.0$ dBs 48 kHz mode: 1 kHz, $+3.0 \pm 2.0$ dBs 44.1 kHz mode: The 7.35 kHz signal level during EMP OFF is $+2.0 \pm 2.0$ dBs. The 7.35 kHz signal level during EMP ON is -6 ± 2 dB from the signal level during EMP OFF.

Checking Method:

- 1) Check that the playback signal level is the specified value.

5. Overall Level Characteristics Check

Mode	Camera recording and playback
Signal	400 Hz, -66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter
Specified Value	-7.5 ± 3.0 dBs

Checking Method:

- 1) Input the 400 Hz, -66 dBs signal in the MIC jack.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the 400 Hz signal level is the specified value.

6. Overall Distortion Check

Mode	Camera recording and playback
Signal	400 Hz, -66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio distortion meter
Specified Value	Below 0.4% (200 Hz to 6 kHz BPF ON)

Checking Method:

- 1) Input the 400 Hz, -66 dBs signal in the MIC jack.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the distortion is the specified value.

7. Overall Noise Level Check

Mode	Camera recording and playback
Signal	No signal: Insert a shorting plug in the MIC jack
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter
Specified Value	Below -45 dBs (IHF-A filter ON, 20 kHz LPF ON)

Checking Method:

- 1) Insert a shorting plug in the MIC jack.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the noise level is the specified value.

8. Overall Separation Check

Mode	Camera recording and playback
Signal	400 Hz, -66 dBs signal: MIC jack <right> [left] (Connect the MIC jack <left> [right] to GND)
Measurement Point	Audio <left> [right] terminal of A/V jack
Measuring Instrument	Audio level meter
Specified Value	Below -40 dBs

< > : Left channel check

[] : Right channel check

Checking Method:

- 1) Input the 400 Hz, -66 dBs signal in the <right> [left] terminal of the MIC jack only.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the signal level of the audio output <left> [right] terminal is the specified value.

5-4. SERVICE MODE

4-1. ADJUSTMENT REMOTE COMMANDER

The adjustment remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander

- 1) Connect the adjustment remote commander to the LANC terminal.
- 2) Set the HOLD switch of the adjustment remote commander to “HOLD” (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander will display as shown in Fig. 5-4-1.

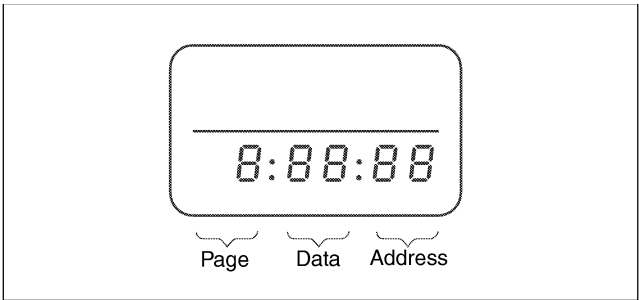


Fig. 5-4-1

- 3) Operate the adjustment remote commander as follows.
 - Changing the page
The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH- button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0 1 2 3 4 5 6 7 8 9 A B C D E F
LCD Display	0 1 2 3 4 5 6 7 8 9 A b c d E F
Decimal notation conversion value	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

- Changing the address
The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
 - Changing the data (Data setting)
The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
 - Writing the adjustment data
The PAUSE button must be pressed to write the adjustment data (7, 8, C, D, E, F page) in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed)
- 4) After completing all adjustments, turn off the main power supply (8.4 V) once.

2. Precautions Upon Using the Adjustment Remote Commander

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table											②					
Lower digit of hexadecimal Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (H)	B (b)	C (c)	D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (H)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note: The characters shown in the parenthesis () shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (**b****d**);
Because the upper digit of the adjustment number is B (**b**), and the lower digit is D (**d**), the meeting point “189” of ① and ② in the above table is the corresponding decimal number.

Table 5-4-1

4-3. SERVICE MODE

Additional note on adjustment

Note: After the completion of the all adjustments, cancel the service mode by either of the following ways.

- 1) After data on page: D and F is restored, unplug the main power supply and remove the coin lithium battery. (In this case, date and time and menu setting have been set by users are canceled. Perform resetting)
- 2) After data on page: D and F is restored, select page: 0, address: 01, and return the data to 00. And when data on page: 2 and 3 are changed, return data to the original condition.

1. Setting the Test Mode

Page F	Address 22
--------	------------

Data	Function
80	Normal
81	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10
--------	------------

Data	Function
00	Normal
01	Forced camera power ON
02	Forced VTR power ON
03	Forced camera + VTR power ON
05	Forced memory power ON

- Before setting the data, select page: 0, address: 01, and set data: 01.
- For page D and F, the data set will be recorded in the non-volatile memory by pressing the PAUSE button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off (8.4 Vdc).
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE button of the adjustment remote commander. And select page: 0, address: 01, and set data: 00.

2. Emergence Memory Address

2-1. C Page Emergence Memory Address

Page C	Address F4 to FF
--------	------------------

Address	Contents
F4	EMG code when first error occurs
F6	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
F7	Lower: MSW code to be moved when first error occurs
F8	EMG code when second error occurs
FA	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
FB	Lower: MSW code to be moved when second error occurs
FC	EMG code when last error occurs
FE	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
FF	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data "00" is written in the above addresses (F4 to FF). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (F4 to F7). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (F8 to FB).

Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (FC to FF).

Note: After completing adjustments, be sure to initialize the data of addresses F4 to FF to "00".

Initializing method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: C, address: F4, set data: 00, and press the PAUSE button.
- 3) Select address: F5 to FF and set data "00" into them in the same way as address: F4.
- 4) Select page: 0, address: 01, and set data: 00.

2-2. F Page Emergence Memory Address

Note 1: Emergence of PB mode only.

Page F	Address 10 to 1B
Address	Contents
10	EMG code when first error occurs
12	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
13	Lower: MSW code to be moved when first error occurs
14	EMG code when second error occurs
16	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
17	Lower: MSW code to be moved when second error occurs
18	EMG code when last error occurs
1A	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
1B	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data "00" is written in the above addresses (10 to 1B). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (10 to 13). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (14 to 17).

Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (18 to 1B).

Note 2: After completing adjustments, be sure to initialize the data of addresses 10 to 1B to "00".

Initializing method:

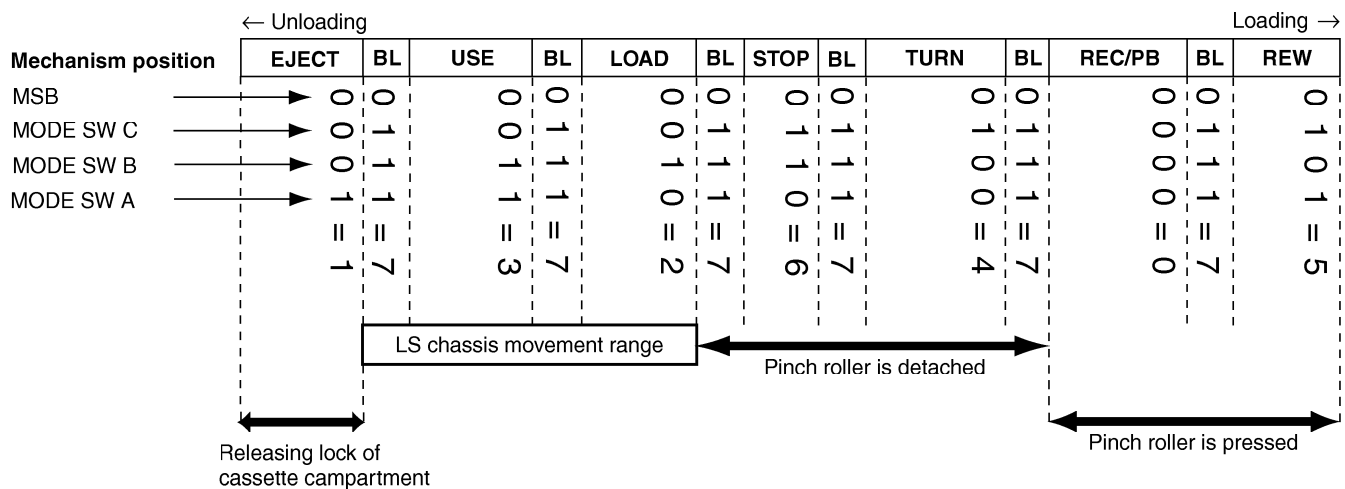
- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 10, set data: 00, and press the PAUSE button.
- 3) Select address: 11 to 1B and set data "00" into them in the same way as in address: 10.
- 4) Select page: 0, address: 01, and set data: 00.

2-3. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in C page, addresses F4, F8 and FC (or F page, addresses 10, 14 and 18). The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

- The lower parts of the data of C page, addresses F6, FA and FE (or F page, addresses 12, 16 and 1A) represent the MSW codes (mode switch mechanism position) when errors occurs.
- The upper parts of the data of C page, addresses F6, FA and FE (or F page, addresses 12, 16 and 1A) represent, when the mechanism position is to be moved, the MSW codes at the start movement (when moving the loading motor).
- The lower parts of the data of C page, addresses F7, FB and FF (or F page, addresses 13, 17 and 1B) represent the MSW codes of the desired movement when the mechanism position is to be moved.

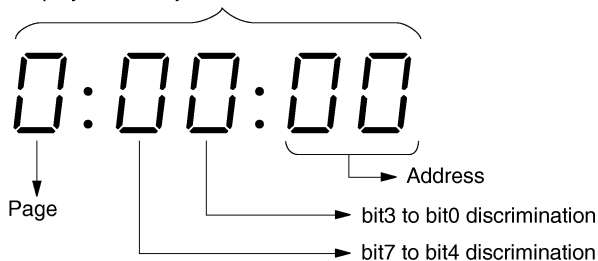


Mechanism Position	MSW Code	Contents
EJECT	1	Position at which the cassette compartment lock is released. The mechanism will not move any further in the unloading direction.
BL	7	BLANC code. Between two codes. The mechanism will not be stopped by this code while it is operating.
USE	3	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position.
LOAD	2	Code during loading/unloading. Code that is used while the LS chassis is moving.
STOP	6	Normal stop position. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on.
TURN	4	Position at which is used when the pendulum gear swings from S to T or from T to S.
REC/PB	0	PB, REC, CUE, REV, PAUSE, FF positions. The pinch roller is pressed and tension regulator is on.
REW	5	REW position. REW are carried at this position. The mechanism will not move any further in the loading direction.

3. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Use the table below to discriminate if the bit value is “1” or “0”.

Display on the adjustment remote commander



(Example) If the remote commander display is “8E”, bit value from bit 7 to bit 4 can be discriminated from the column ㉠, and those from bit 3 to bit 0 from column ㉡.

Display on the adjustment remote commander	Bit values			
	bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
㉠ 8	1	0	0	0
9	1	0	0	1
A (H)	1	0	1	0
B (h)	1	0	1	1
C (L)	1	1	0	0
D (d)	1	1	0	1
㉡ E (E)	1	1	1	0
F (F)	1	1	1	1

4. Input/output Check

Page 2	Address 49
--------	------------

Bit	Function	When bit value = 1	When bit value = 0
0			
1			
2			
3			
4	MIC jack	MIC jack is used	
5			
6	AUDIO/VIDEO jack	AUDIO/VIDEO jack is used	
7	S VIDEO jack		S VIDEO jack is used

Using method:

- 1) Select page: 2, address: 49.
- 2) By discriminating the bit value of display data, the state of the jack can be discriminated.

5. LED, LCD (Display Window) Check

Page 2	Address 05	Bit5
--------	------------	------

Using method:

- 1) Select page: 2, address: 05, and set the bit value of Bit5 to “1”.
- 2) Check that all LED are lit and all segments of LCD (display window) are lit.
- 3) Select page: 2, address: 05, and set the bit value of Bit5 to “0”.

6. Record of Use Check

Page 2	Address A2 to AA
--------	------------------

Bit	Function		Remarks
A2	Drum rotation	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
A3	counted time	Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A4	(BCD code)	Minute	
A5	User initial power	Year	After setting the clock, set the date of power on next
A6	on date	Month	
A7	(BCD code)	Day	
A8	Final condensation	Year	
A9	occurrence date	Month	
AA	(BCD code)	Day	

Using method:

- 1) The record of use data is displayed at page: 2, addresses: A2 to AA.

Note 1: This data will be erased when the coin lithium battery (CF-69/70/72 board BH001) is removed (reset).

Note 2: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
 3 LCD model: DCR-TRV420E/TRV525
 3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/
 TRV620E
 4 LCD model: DCR-TRV720/TRV720E

	CF board
2.5 LCD model	CF-69
3/3.5 LCD model	CF-70
4 LCD model	CF-72

Note 3: When the drum was replaced, initialize the drum rotation counted time.

Initializing method of drum rotation counted time:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: A2, set data: 00, and press the PAUSE button.
- 3) Select address: A3 and A4 and set data "00" into them in the same way as in address: A2.
- 4) Select page: 0, address: 01, and set data: 00.

7. Switch Check (1)

Page 2	Address 43
--------	------------

Bit	Function	When bit value = 1	When bit value = 0
0	VTR MODE SW (SS-10000 block S001)	OFF	ON
1	CAM MODE SW (SS-10000 block S001)	OFF	ON
2	START/STOP SW (SS-10000 block S002)	OFF	ON
3	EJECT SW (FK-10000 block S012)	OFF	ON
4	CC DOWN SW (Mechanism chassis)	OFF (UP)	ON (DOWN)
5	PHOTO FREEZE SW (FK-10000 block S013)	OFF	ON
6	PHOTO MODE SW (SS-10000 block S001)	OFF	ON
7			

Using method:

- 1) Select page: 2, address: 43.
- 2) By discriminating the bit value of display data, the state of the switches can be discriminated.

8. Switch Check (2)

Page 2	Address 60 to 66
--------	------------------

Using method:

- 1) Select page: 2, address: 60 to 66.
- 2) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00 to 0C	0D to 24	25 to 3F	40 to 5D	5E to 81	82 to AA	AB to D7	D8 to FF
60 (KEY AD0) IC4801 ⑨③	LASER AV LINK (FK-10000) block (S001)	STOP (FK-10000) block (S002)	FF (FK-10000) block (S003)	REC (FK-10000) block (S004, 005)	EDIT SEARCH (+) (FK-10000) block (S006)	EDIT SEARCH (-) (FK-10000) block (S007)		No key input
61 (KEY AD1) IC4801 ⑨④	PHOTO START (FK-10000) block (S014)	PAUSE (FK-10000) block (S009)	REW (FK-10000) block (S010)	PLAY (FK-10000) block (S011)				No key input
62 (KEY AD2) IC4801 ⑨⑤	DIGITAL EFFECT (CF-69/70/ 72 board) (S001)	PICTURE EFFECT (CF-69/70/ 72 board) (S003)	MENU (CF-69/70/ 72 board) (S007)	TITLE (CF-69/70/ 72 board) (S010)	PB ZOOM (CF-69/70/ 72 board) (S014)			No key input
(KEY AD3) IC4801 ⑨⑥	MEMORY + (CF-69/70/ 72 board) (S002)	MEMORY - (CF-69/70/ 72 board) (S004)	MEMORY INDEX (CF-69/70/ 72 board) (S008)	MEMORY DELETE (CF-69/70/ 72 board) (S011)	MEMORY PLAY (CF-69/70/ 72 board) (S015)	MEMORY MIX (CF-69 board) (S018) (CF-70/72 board) (S019)	PANEL COLSE (PANEL OPEN/ CLOSE SWITCH) (S008)	PANEL OPEN (PANELOPEN/ CLOSE SWITCH) (S008)
64 (KEY AD4) IC4801 ⑨⑦	SUPER NIGHTSHOT (MF-10000) block (S002)	DATA CODE (CF-69/70/ 72 board) (S005)	END SEARCH (CF-69/70/ 72 board) (S009)	SELF TIMER (CF-69/70/ 72 board) (S012)	DISPLAY (CF-69/70/ 72 board) (S016)	FOCUS INFINITY (MF-10000) block (S001)	FOCUS AUTO (MF-10000) block (S001)	FOCUS MANUAL (MF-10000) block (S001)
65 (KEY AD5) IC4801 ⑨⑧			EXEC (CF-69/70 board) (S006) (KP-009 board) (S305)	EXPOSURE (CF-69/70 board) (S013) (KP-009 board) (S304)	PROGRAM AE (CF-69/70 board) (S017) (KP-009 board) (S303)	BACK LIGHT (CF-69 board) (S019) (CF-70 board) (S020) (KP-009 board) (S302)	FADER (CF-69 board) (S020) (CF-70 board) (S021) (KP-009 board) (S301)	No key input
66 (KEY AD6) IC4801 ⑨⑨		LCD BRIGHT (+) (PD-117 board) (S5701) (BV-10000) block (S001)	LCD BRIGHT (-) (PD-117 board) (S5702) (BV-10000) block (S002)	VOLUME (+) (PD-117 board) (S5703) (BV-10000) block (S003)	VOLUME (-) (PD-117 board) (S5704) (BV-10000) block (S004)	PANEL REVERSE (PR-10000) block (S001)		PANEL NORMAL (PR-10000) block (S001)

Note: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/
TRV620E
4 LCD model: DCR-TRV720/TRV720E

	CF board	KP board	PD board	BV block
2.5 LCD model	CF-69	—	PD-117	—
3/3.5 LCD model	CF-70	—	PD-118	BV-10000
4 LCD model	CF-72	KP-009	PD-118	BV-10000

9. Headphone Jack Check

Page 3	Address 5A
--------	------------

Bit	Function	When bit value = 1	When bit value = 0
2	Headphone jack	Headphone jack is used	

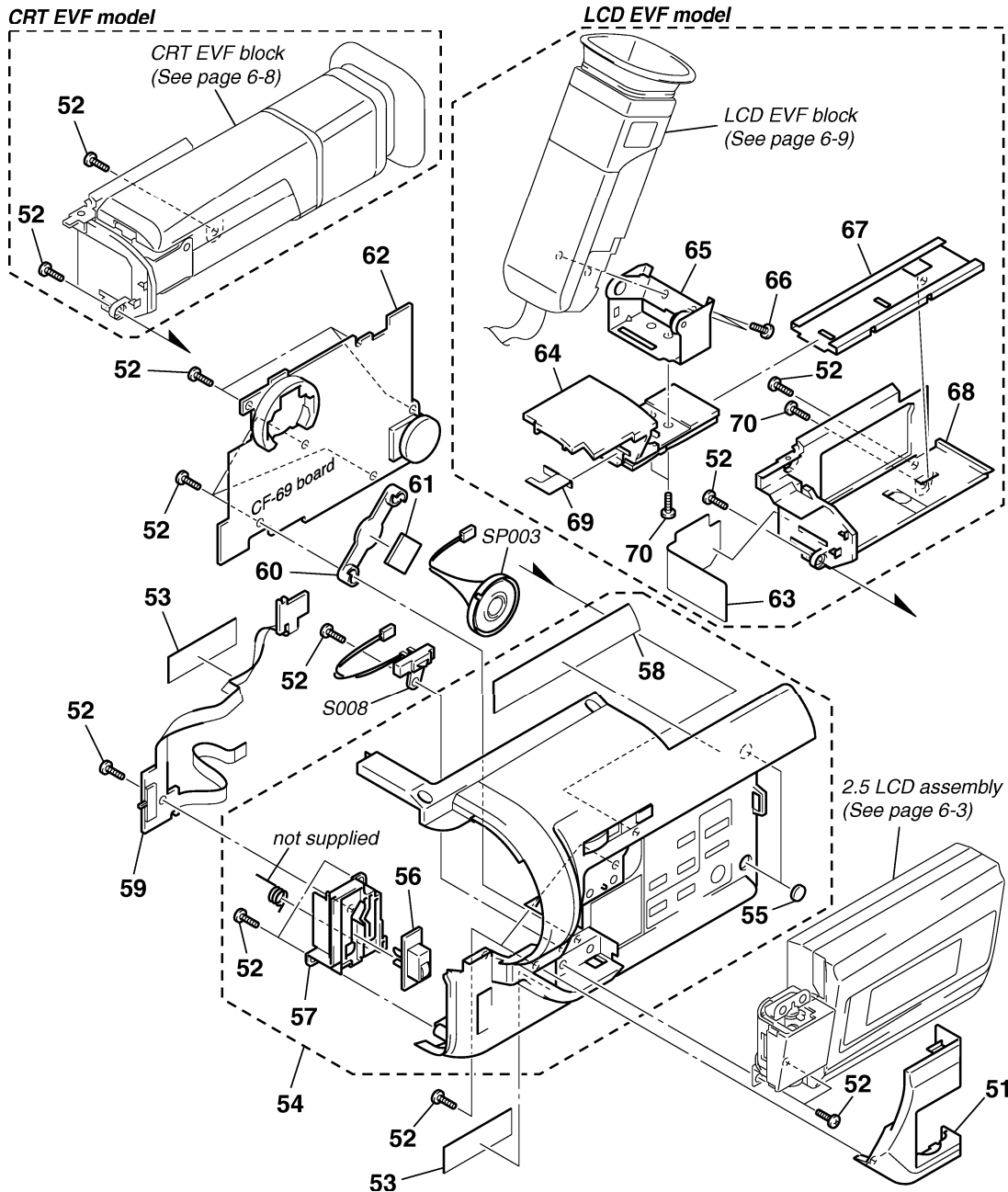
Using method:

- 1) Select page: 3, address: 5A.
- 2) By discriminating the bit value of display data, the state of the headphone jack can be discriminated.

6-1-2. CABINET (R) SECTION (2.5 LCD model) (TRV320/TRV320E/TRV320P)

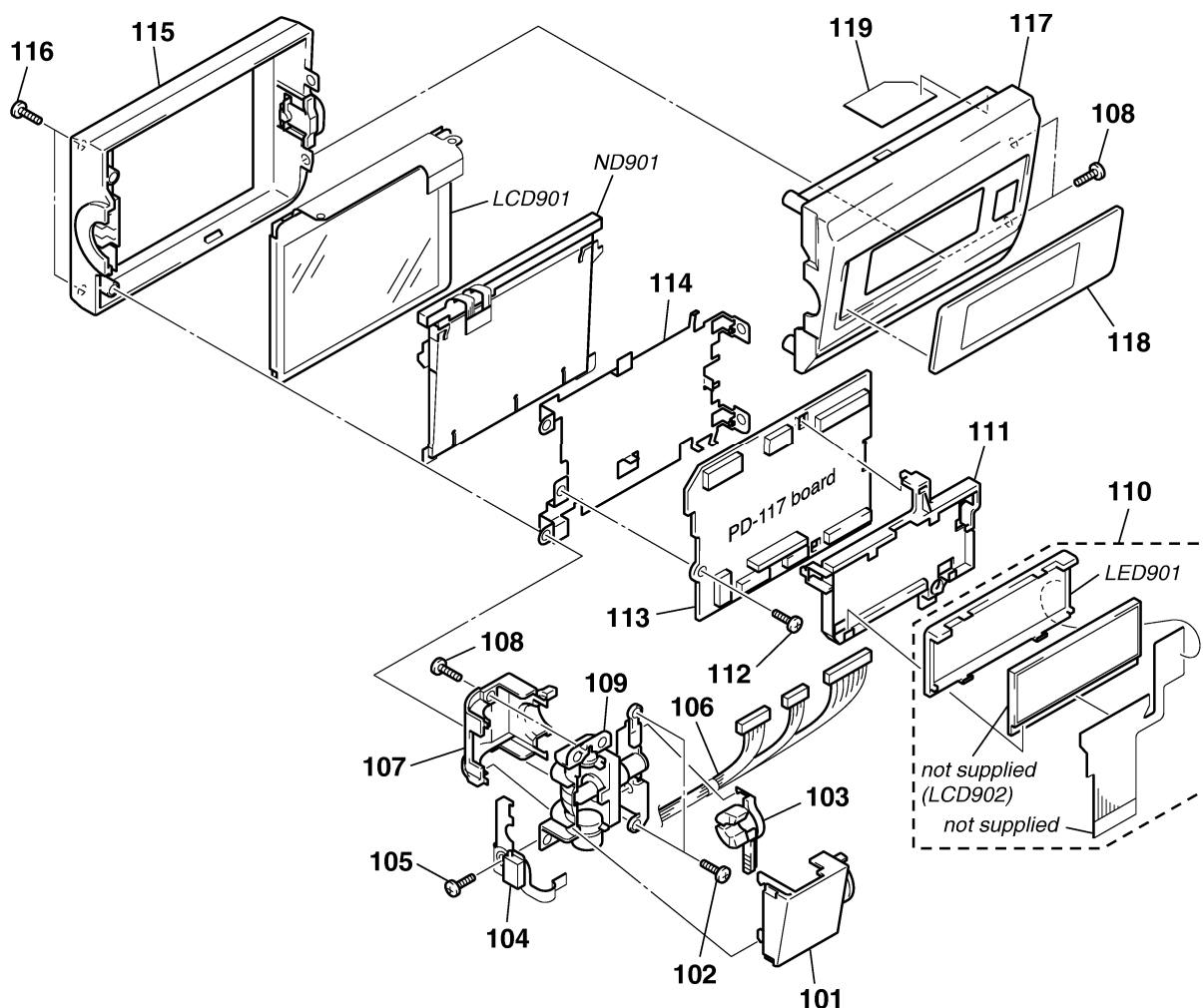
CRT EVF model: DCR-TRV320/TRV320E: E, HK, AUS, CN/TRV320P

LCD EVF model: DCR-TRV320E: AEP, UK, EE, NE, RU



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-058-670-01	COVER (R) (101), HINGE (TRV320/TRV320P)		* 63	3-058-641-01	GUIDE (100), HARNESS (TRV320E: AEP, UK, EE, NE, RU)	
51	3-058-670-11	COVER (R) (101), HINGE (TRV320E)		64	X-3950-231-1	BASE (100) ASSY, VF (TRV320E: AEP, UK, EE, NE, RU)	
52	3-948-339-61	TAPPING		65	X-3950-230-1	HINGE ASSY, VF (TRV320: AEP, UK, EE, NE, RU)	
53	3-941-343-21	TAPE (A)		66	3-948-339-81	TAPPING	
54	X-3950-249-1	CABINET (R) (101M) ASSY		* 67	3-058-639-01	SHEET METAL (100), SLIDE (TRV320E: AEP, UK, EE, NE, RU)	
55	3-959-978-02	CUSHION, PANEL		68	X-3950-229-1	BASE (100) ASSY, SLIDE (TRV320E: AEP, UK, EE, NE, RU)	
56	3-058-698-01	KNOB (100), MF		* 69	3-058-640-01	RETAINER (100), HARNESS (TRV320E: AEP, UK, EE, NE, RU)	
57	3-058-697-01	RETAINER (100), MF		70	3-968-729-01	SCREW (2X4)	
* 58	3-059-650-01	BLIND (B) (101), VF		S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
59	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000)		SP003	1-529-590-11	SPEAKER (2.0cm)	
* 60	3-058-659-01	RETAINER (101), SPEAKER					
* 61	3-058-658-01	SPACER (101), SPEAKER					
62	A-7074-327-A	CF-69 BOARD, COMPLETE (TRV320/TRV320E: E, HK, AUS, CN/TRV320P)					
62	A-7074-350-A	CF-69 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU)					

6-1-3. 2.5 LCD ASSEMBLY SECTION (TRV320/TRV320E/TRV320P)



(Note) About PD-117 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

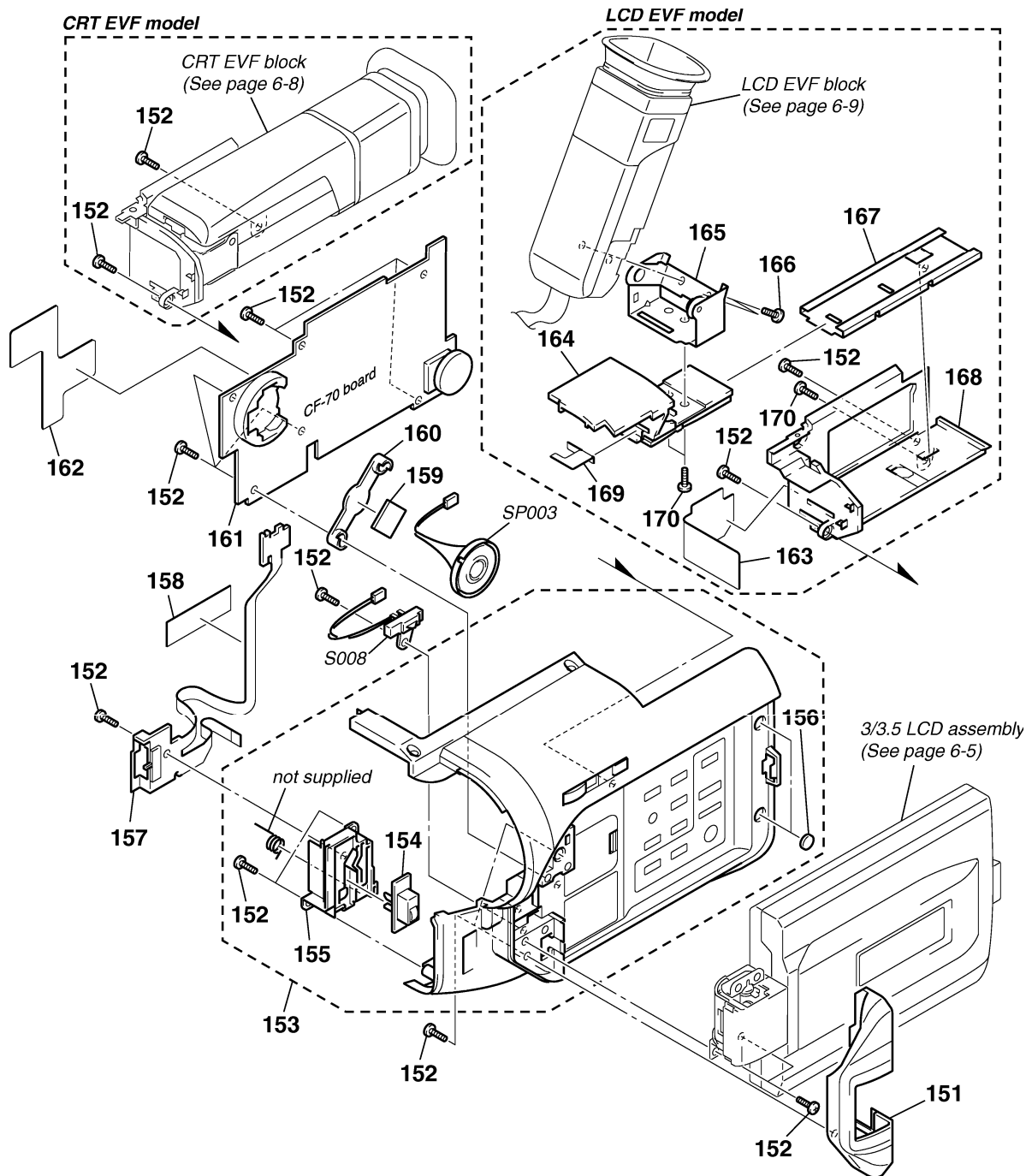
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-058-671-01	COVER (C) (101), HINGE		114	3-058-666-01	FRAME (101), PANEL	
102	3-948-339-31	SCREW, TAPPING		115	X-3950-236-1	CABINET (M) (101) ASSY, P	
* 103	3-058-672-01	CLAMP, HARNESS		116	3-948-339-81	TAPPING	
104	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000)		117	3-058-665-01	CABINET (C) (101), P	
105	4-981-286-01	SCREW (M1.7X2) (IB LOCK)		118	3-058-668-41	WINDOW (101), LCD (TRV320/TRV320P)	
106	1-960-225-11	HARNESS (DP-83)		118	3-058-668-51	WINDOW (101), LCD (TRV320E)	
107	3-058-673-01	COVER (M), HINGE		* 119	3-061-970-01	SHEET (101), ELECTROSTATIC	
108	3-968-729-01	SCREW (2X4)		LCD901	1-803-852-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 61K) (Note)	
109	X-3950-237-1	HINGE ASSY		LCD901	1-803-853-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 123K) (Note)	
110	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE)		LCD901	1-803-859-31	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE C 61K) (Note)	
111	3-058-667-01	HOLDER (101), LCD		Δ LED901	1-517-866-11	LIGHT, BACK	
112	3-713-786-21	SCREW (M2X3)		Δ ND901	1-517-751-11	TUBE, FLUORESCENT, COLD CATHODE (TRV320/TRV320E: E, HK, AUS, CN/TRV320P)	
113	A-7074-272-A	PD-117 BOARD, COMPLETE (2.5 LCD TYPE S 61K) (Note)		Δ ND901	1-517-751-21	TUBE, FLUORESCENT, COLD CATHODE (TRV320E: AEP, UK, EE, NE, RU)	
113	A-7074-280-A	PD-117 BOARD, COMPLETE (2.5 LCD TYPE S 123K) (Note)					
113	A-7074-290-A	PD-117 BOARD, COMPLETE (2.5 LCD TYPE C 61K) (Note)					

6-1-4. CABINET (R) SECTION (3/3.5 LCD model) **(TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)**

CRT EVF model: DCR-TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P

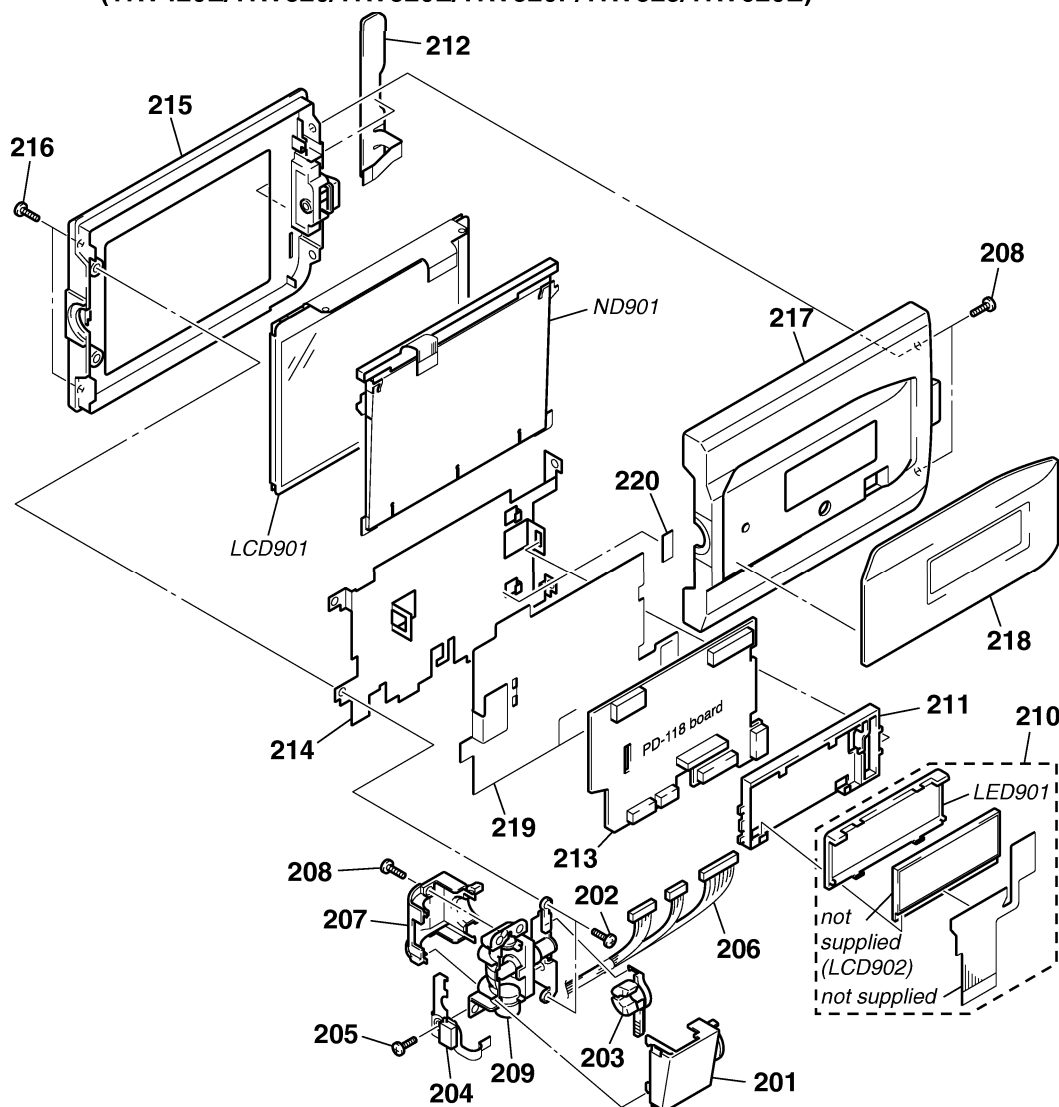
LCD EVF model: DCR-TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E



Ref. No.	Part No.	Description	Remark
151	3-058-721-01	COVER (R (102)), HINGE	
152	3-948-339-61	TAPPING	
153	X-3950-239-1	CABINET (R) (102) ASSY	
154	3-058-705-01	KNOB (102), MF	
155	3-058-697-01	RETAINER (100), MF	
156	3-959-978-02	CUSHION, PANEL	
157	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000)	
158	3-941-343-21	TAPE (A)	
* 159	3-058-658-01	SPACER (101), SPEAKER	
* 160	3-058-659-01	RETAINER (101), SPEAKER	
161	A-7074-344-A	CF-70 BOARD, COMPLETE (TRV420E: CN/ TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
161	A-7074-373-A	CF-70 BOARD, COMPLETE (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
* 162	3-059-708-01	SHEET (102), CF	

Ref. No.	Part No.	Description	Remark
* 163	3-058-641-01	GUIDE (100), HARNESS (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
164	X-3950-231-1	BASE (100) ASSY, VF (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
165	X-3950-230-1	HINGE ASSY, VF (TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E)	
166	3-948-339-81	TAPPING	
* 167	3-058-639-01	SHEET METAL (100), SLIDE (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
168	X-3950-229-1	BASE (100) ASSY, SLIDE (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
* 169	3-058-640-01	RETAINER (100), HARNESS (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
170	3-968-729-01	SCREW (2X4)	
S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
SP003	1-529-590-11	SPEAKER (2.0cm)	

6-1-5. 3/3.5 LCD ASSEMBLY SECTION
(TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)



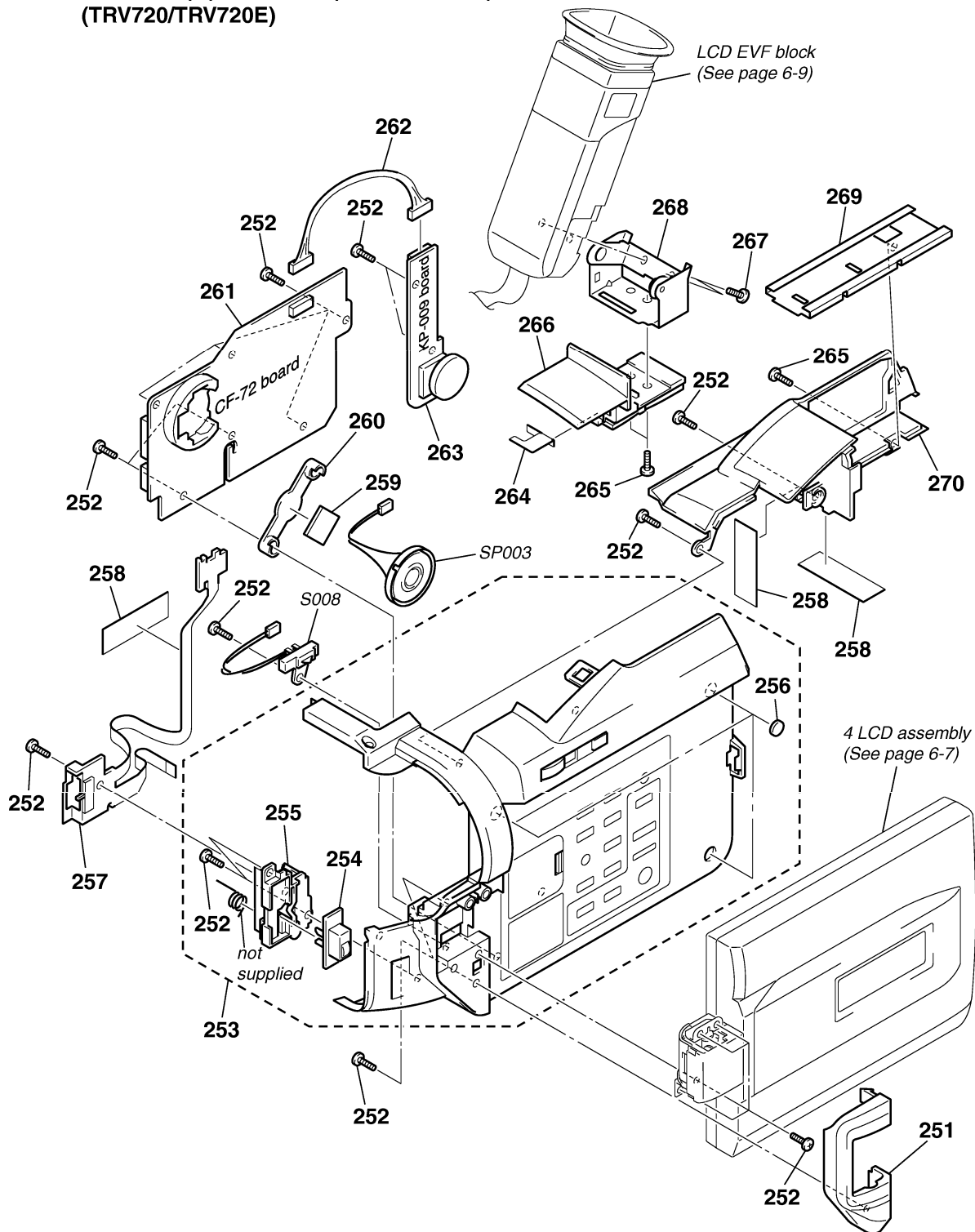
(Note) About PD-118 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.



Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	3-058-722-01	COVER (C (102)), HINGE		215	X-3950-241-1	CABINET (M) (102) ASSY, P	
202	3-948-339-31	SCREW, TAPPING					(TRV420E/TRV525)
* 203	3-058-672-01	CLAMP, HARNESS		216	3-948-339-81	TAPPING	
204	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000)		217	X-3950-242-1	CABINET (C) (102) ASSY, P	
205	4-981-286-01	SCREW (M1.7X2) (1B LOCK)		218	3-058-716-01	WINDOW (102), LCD (TRV520/TRV520P)	
				218	3-058-716-11	WINDOW (102), LCD (TRV525)	
206	1-960-225-11	HARNESS (DP-83)		218	3-058-716-21	WINDOW (102), LCD (TRV520E)	
207	3-058-673-01	COVER (M), HINGE		218	3-058-716-31	WINDOW (102), LCD (TRV420E)	
208	3-968-729-01	SCREW (2X4)		218	3-058-716-51	WINDOW (102), LCD (TRV620E)	
209	X-3950-237-1	HINGE ASSY		* 219	3-058-720-01	INSULATING SHEET (B (102)), PD	
210	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE)		* 220	3-062-064-01	PD SHEET	
211	3-058-715-01	HOLDER (102), LCD					
212	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000)		LCD901	1-803-854-21	INDICATOR MODULE, LIQUID CRYSTAL	
213	A-7074-348-A	PD-118 BOARD, COMPLETE (3.5 LCD TYPE S)					(3 LCD TYPE S) (Note)
			(Note)	LCD901	1-803-855-21	INDICATOR MODULE, LIQUID CRYSTAL	
213	A-7074-374-A	PD-118 BOARD, COMPLETE (3 LCD TYPE S)					(3.5 LCD TYPE S) (Note)
			(Note)	LCD901	1-803-861-21	INDICATOR MODULE, LIQUID CRYSTAL	
213	A-7074-377-A	PD-118 BOARD, COMPLETE (3.5 LCD TYPE C)					(3.5 LCD TYPE C) (Note)
			(Note)	Δ LED901	1-517-866-11	LIGHT, BACK	
214	3-058-714-01	FRAME (102), PANEL		Δ ND901	1-517-855-21	TUBE, FLUORESCENT, COLD CATHODE	
215	X-3950-240-1	CABINET (M) (102) ASSY, P					(3.5 LCD model) (TRV520/TRV520E/
		(TRV520/TRV520E/TRV520P/TRV620E)					TRV520P/TRV620E)
				Δ ND901	1-517-856-21	TUBE, FLUORESCENT, COLD CATHODE	
							(3 LCD model) (TRV420E/TRV525)

**6-1-6. CABINET (R) SECTION (4 LCD model)
(TRV720/TRV720E)**



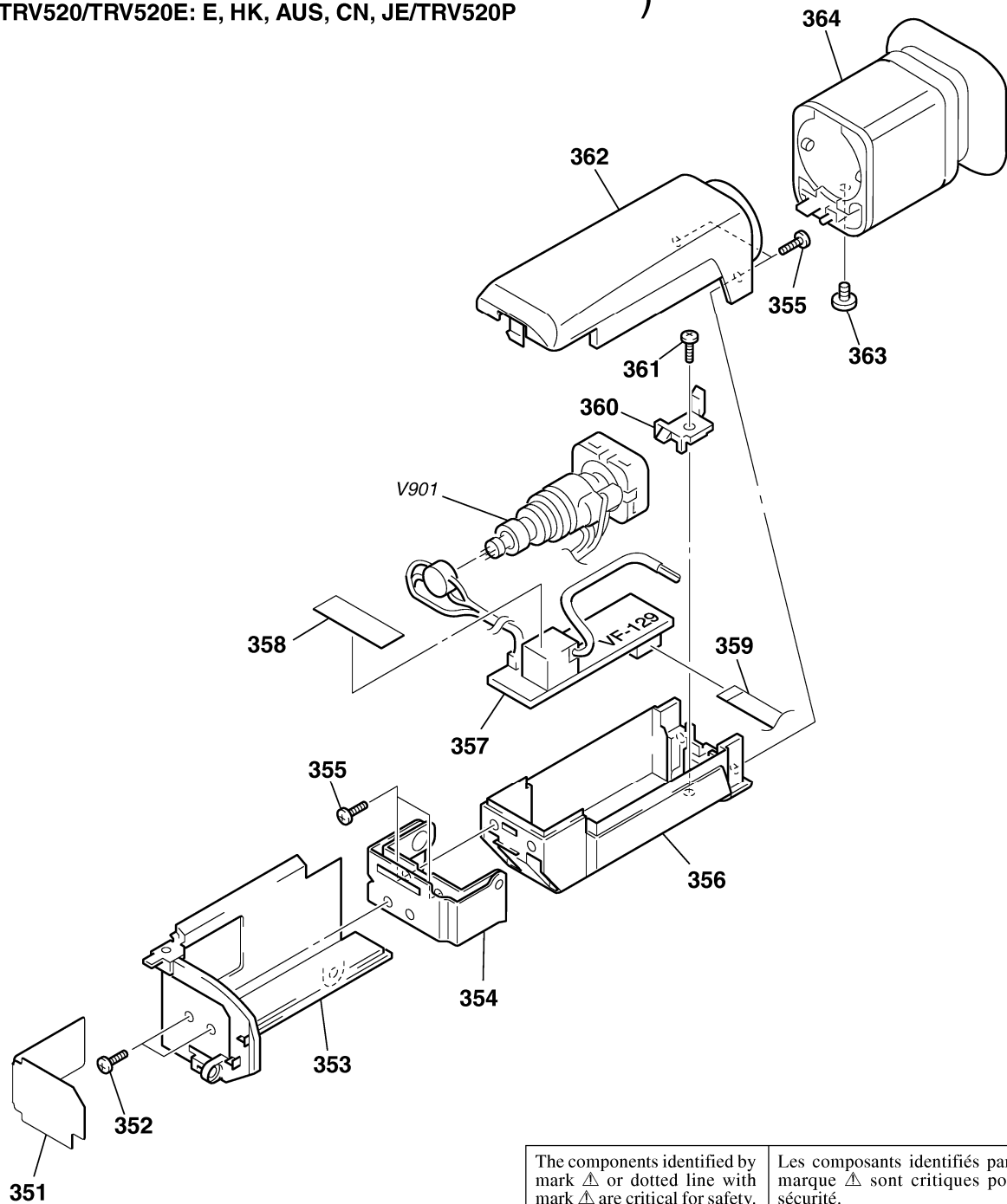
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	3-059-547-01	COVER (R) (103), HINGE		262	1-960-227-11	HARNESS (DP-87)	
252	3-948-339-61	TAPPING		263	A-7074-382-A	KP-009 BOARD, COMPLETE	
253	X-3950-441-1	CABINET (R) (103) ASSY		* 264	3-058-640-01	RETAINER (100), HARNESS	
254	3-059-533-01	KNOB (103), MF		265	3-968-729-01	SCREW (2X4)	
255	3-059-532-01	RETAINER (103), MF		266	X-3950-551-1	BASE (103) ASSY, SLIDE	
256	3-959-978-02	CUSHION, PANEL		267	3-948-339-81	TAPPING	
257	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000)		268	X-3950-230-1	HINGE ASSY, VF	
258	3-941-343-21	TAPE (A)		* 269	3-060-376-01	SHEET METAL (103), SLIDE	
* 259	3-058-658-01	SPACER (101), SPEAKER		270	X-3950-552-1	BASE (103) ASSY, VF	
* 260	3-058-659-01	RETAINER (101), SPEAKER		S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
261	A-7074-378-A	CF-72 BOARD, COMPLETE		SP003	1-529-590-11	SPEAKER (2.0cm)	

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
301	3-059-548-01	COVER (C) (103), HINGE		314	3-059-546-01	FRAME (103), PANEL	
302	3-948-339-31	SCREW, TAPPING		315	X-3950-444-1	CABINET (M) (103) ASSY, P	
* 303	3-058-672-01	CLAMP, HARNESS		316	3-948-339-81	TAPPING	
304	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000)		317	X-3950-445-1	CABINET (C) (103) ASSY, P	
305	4-981-286-01	SCREW (M1.7X2) (IB LOCK)		318	3-059-549-01	WINDOW (103), LCD (TRV720)	
306	1-960-225-11	HARNESS (DP-83)		318	3-059-549-11	WINDOW (103), LCD (TRV720E)	
307	3-058-673-01	COVER (M), HINGE		* 319	3-058-720-01	INSULATING SHEET (B (102)), PD	
308	3-968-729-01	SCREW (2X4)		* 320	3-062-064-01	PD SHEET	
309	X-3950-237-1	HINGE ASSY		LCD901	1-803-863-21	INDICATOR MODULE, LIQUID CRYSTAL	
310	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE)				(4 LCD TYPE C) (Note)	
				LCD901	1-803-893-21	INDICATOR MODULE, LIQUID CRYSTAL	
						(4 LCD TYPE S) (Note)	
311	3-058-715-01	HOLDER (102), LCD					
312	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000)					
313	A-7074-371-A	PD-118 BOARD, COMPLETE (4 LCD TYPE S)		△LED901	1-517-866-11	LIGHT, BACK	
		(Note)		△ND901	1-517-852-21	TUBE, FLUORESCENT, COLD CATHODE	
313	A-7074-383-A	PD-118 BOARD, COMPLETE (4 LCD TYPE C)					
		(Note)					

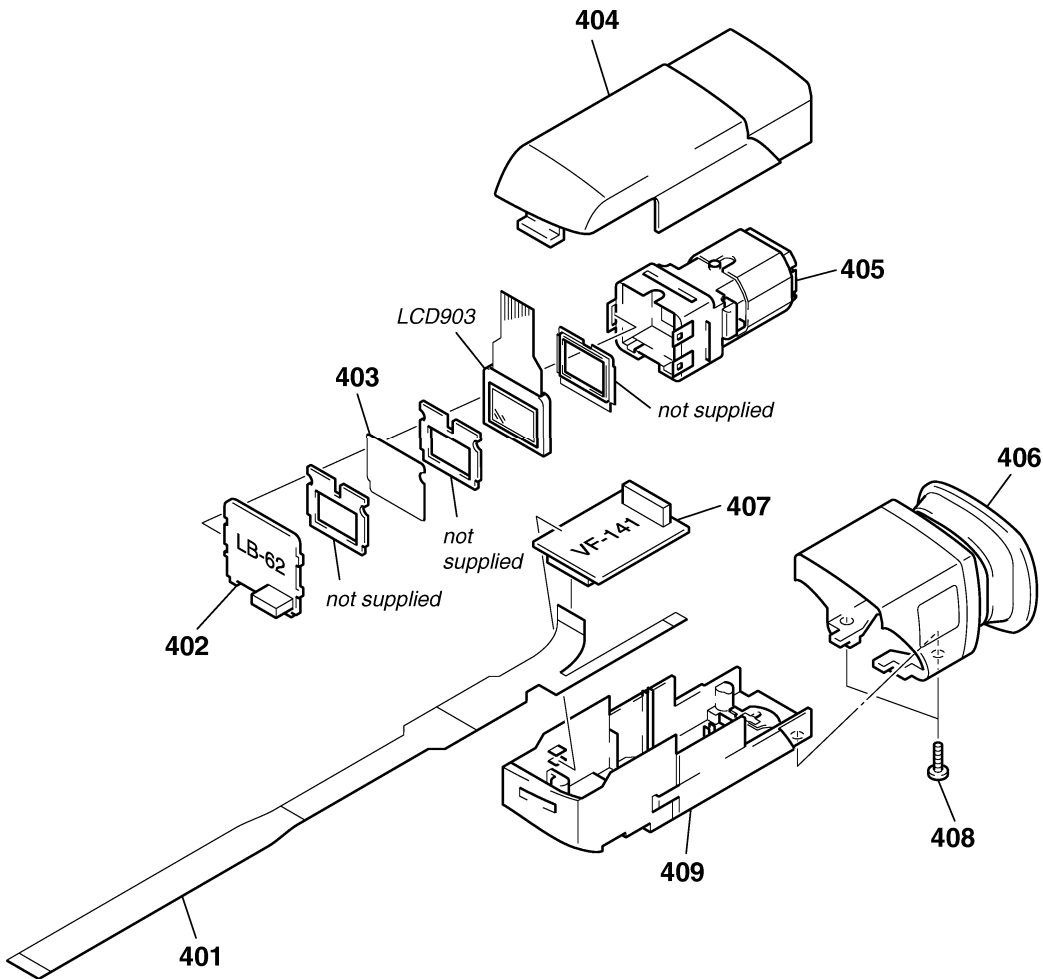
6-1-8. CRT EVF BLOCK SECTION
(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/
TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)



Ref. No.	Part No.	Description	Remark
* 351	3-058-641-01	GUIDE (100), HARNESS	
352	3-968-729-01	SCREW (2X4)	
353	X-3950-234-1	BASE (B) (100) ASSY, VF	
354	X-3950-230-1	HINGE ASSY, VF	
355	3-948-339-81	TAPPING	
356	3-058-644-01	CABINET (LOWER) (B) (100), EVF	
357	A-7073-838-A	VF-129 BOARD, COMPLETE (TRV320/TRV320P/TRV520/TRV520P)	
357	A-7073-855-A	VF-129 BOARD, COMPLETE (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)	

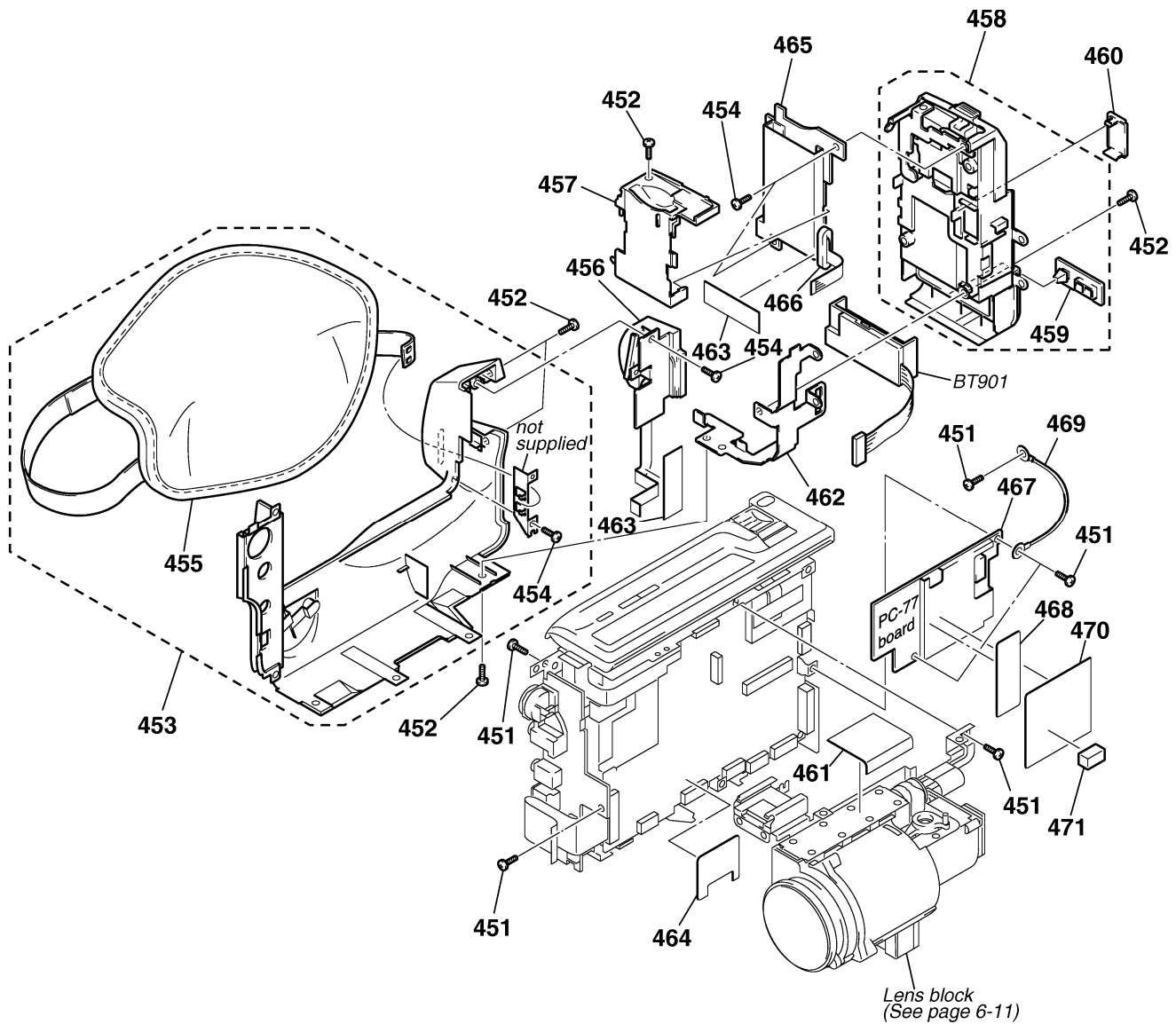
Ref. No.	Part No.	Description	Remark
358	3-941-343-21	TAPE (A)	
359	1-792-454-11	CABLE, FLEXIBLE FLAT (FFC-289)	
360	3-053-681-01	TALLY, EVF	
361	3-948-339-61	TAPPING	
362	X-3950-233-1	CABINET (UPPER) (B) (100) ASSY, EVF	
363	3-975-898-01	SCREW (T), F LOCK	
364	X-3949-329-1	FINDER (S) ASSY	
Δ V901	1-452-673-61	CRT ASSY (M01KXX90WB)	

6-1-9. LCD EVF BLOCK SECTION
(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/
TRV525/TRV620E/TRV720/TRV720E)



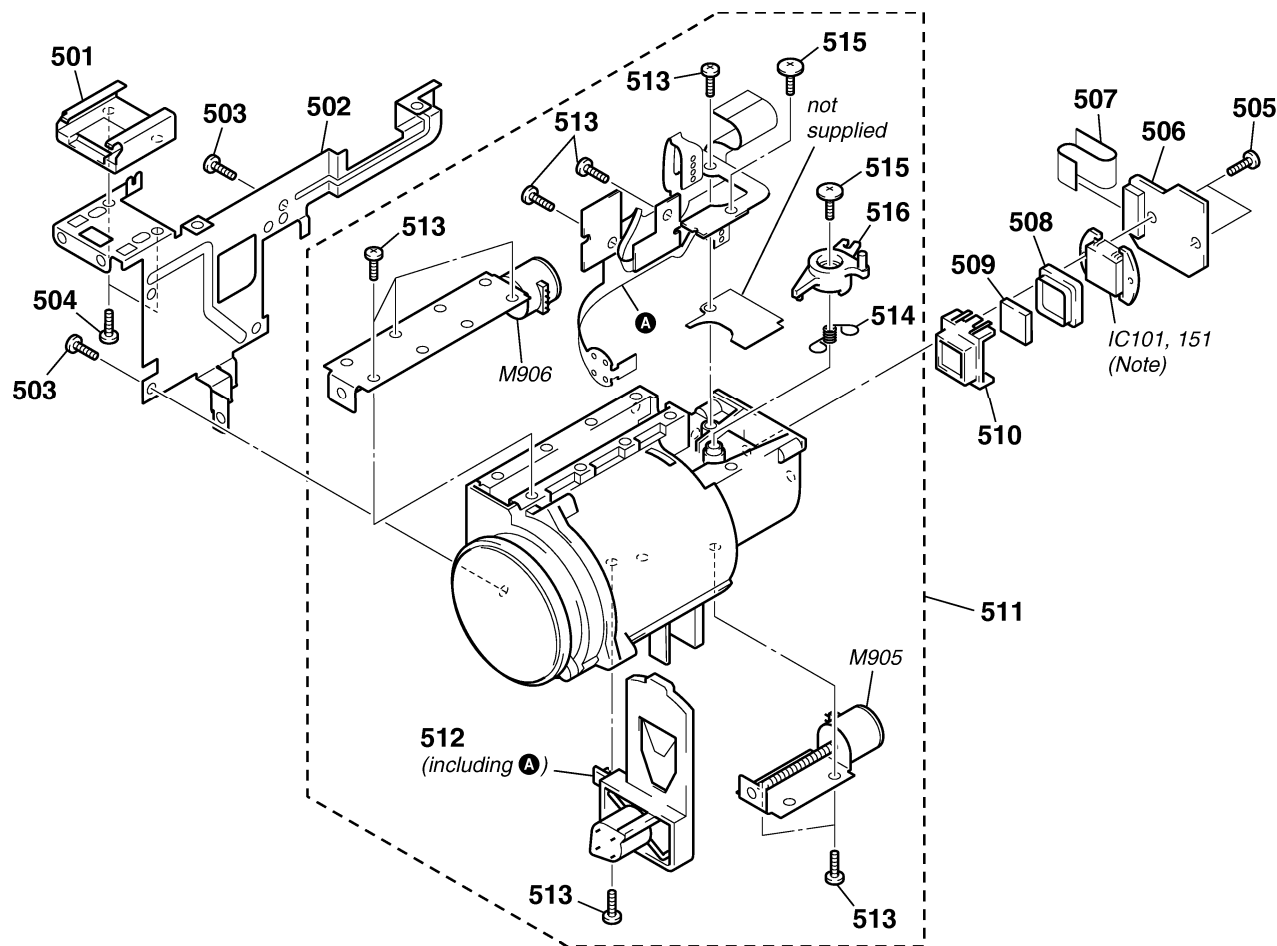
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
401	1-676-299-11	FP-151 FLEXIBLE BOARD		406	X-3950-228-1	CABINET (REAR) (B) (100) ASSY, EVF	
402	A-7074-192-A	LB-62 BOARD, COMPLETE				(TRV320E: AEP, UK, EE, NE, RU/	
		(TRV525/TRV620E/TRV720/TRV720E)		406	X-3950-550-1	CABINET (REAR) (103) ASSY, EVF	
402	A-7074-351-A	LB-62 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)				(TRV720/TRV720E)	
403	3-058-233-01	ILLUMINATOR (97), BL		407	A-7074-193-A	VF-141 BOARD, COMPLETE	
404	3-058-638-01	CABINET (UPPER) (100), EVF				(TRV525/TRV620E/TRV720/TRV720E)	
		(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/		407	A-7074-352-A	VF-141 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
		TRV520E: AEP/TRV525/TRV620E)		408	3-948-339-81	TAPPING	
404	3-060-370-01	CABINET (UPPER) (103), EVF		409	X-3950-226-1	CABINET (LOWER) (100) ASSY, EVF	
		(TRV720/TRV720E)				(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/	
405	X-3950-101-1	LENS (C) (97) ASSY, VF				TRV520E: AEP/TRV525/TRV620E)	
405	X-3950-232-1	LENS (B) (100) ASSY, VF (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)		409	X-3950-549-1	CABINET (LOWER) (103) ASSY, EVF	
406	X-3950-227-1	CABINET (REAR) (100) ASSY, EVF				(TRV720/TRV720E)	
		(TRV525/TRV620E)		LCD903	8-753-026-74	LCX032AK-1	
						(TRV525/TRV620E/TRV720/TRV720E)	
				LCD903	8-753-026-76	LCX032AL-5 (TRV320E: AEP, UK, EE, NE, RU/	
						TRV420E: AEP/TRV520E: AEP)	

6-1-10. CABINET (L) SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
451	3-713-786-21	SCREW (M2X3)		457	X-3950-225-1	CABINET ASSY, MS	
452	3-968-729-01	SCREW (2X4)		458	X-3950-222-1	PANEL ASSY, BATTERY	
453	X-3950-434-1	CABINET (L) ASSY (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV720/TRV720E: E, HK, CN)		459	3-987-656-01	LID, JACK	
453	X-3950-435-1	CABINET (L) ASSY (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)		460	3-975-752-01	LID (BT), CPC	
453	X-3950-453-1	CABINET (L) ASSY (TRV620E/TRV720E: AEP)		* 461	3-062-065-01	FK SHEET	
454	3-948-339-61	TAPPING		462	3-058-619-01	SHEET METAL (LOWER), STRAP	
455	3-052-815-01	BELT (ES), GRIP		463	3-941-343-21	TAPE (A)	
456	1-418-800-11	SWITCH BLOCK, CONTROL (SS-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E)		* 464	3-059-461-01	SHEET, RP SHIELD	
456	1-418-800-31	SWITCH BLOCK, CONTROL (SS-10000) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)		465	1-676-823-21	FP-162 FLEXIBLE BOARD	
				466	1-500-226-31	BEAD, FERRITE	
				467	A-7074-328-A	PC-77 BOARD, COMPLETE	
				* 468	3-061-337-01	SHEET (I), PC SHIELD	
				469	1-960-596-11	HARNESS (HT-054)	
				* 470	3-061-982-01	SHEET (S), ELECTROSTATIC	
				* 471	3-062-053-01	SPACER, PC	
				BT901	1-694-384-11	TERMINAL BOARD, BATTERY	

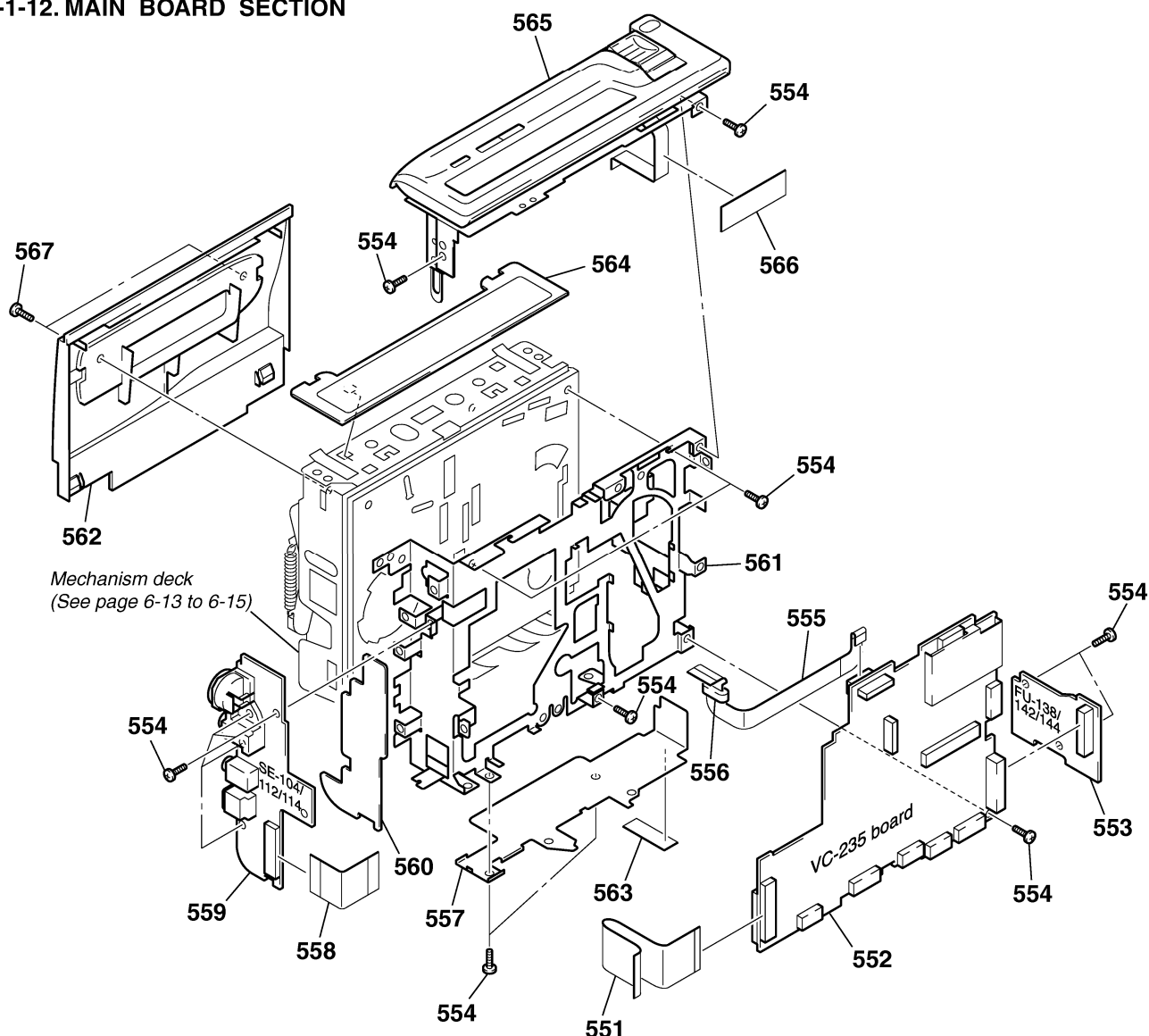
6-1-11.LENS BLOCK SECTION



(Note) Be sure to read "Precuations for Replcement of CCD Imager" on page 4-8, 4-10 when changing the CCD imager

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
501	1-793-996-11	CONNECTOR, EXTERNAL		509	1-758-216-21	FILTER BLOCK, OPTICAL (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	
502	3-058-595-01	FRAME, LENS		510	3-978-981-11	ADAPTOR (FK), CCD FITTING	
503	3-948-339-61	TAPPING		511	8-848-736-01	DEVICE, LENS LSV-680A	
504	3-989-735-01	SCREW (M1.7), LOCK ACE, P2		512	1-758-445-11	IRIS IR-680 (including FLEXIBLE BOARD)	
505	3-318-203-11	SCREW (B1.7X6), TAPPING		513	3-713-791-41	TAPPING (B1.7X5)	
506	A-7074-270-A	CD-242 BOARD, COMPLETE (TRV320/TRV320P)		514	3-059-508-01	SPRING, RETAIN	
506	A-7074-279-A	CD-244 BOARD, COMPLETE (TRV320E)		515	3-056-022-01	TAPPING (B1.7X3.5)	
506	A-7074-346-A	CD-266 BOARD, COMPLETE (TRV520/TRV520P/TRV525)		516	3-059-501-01	LEVER, IR	
506	A-7074-370-A	CD-271 BOARD, COMPLETE (TRV720E)		IC101	A-7030-821-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720) (Note)	
506	A-7074-376-A	CD-267 BOARD, COMPLETE (TRV420E/TRV520E/TRV620E)		IC151	A-7031-072-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E) (Note)	
506	A-7074-380-A	CD-270 BOARD, COMPLETE (TRV720)					
507	1-676-822-11	FP-161 FLEXIBLE BOARD		M905	1-763-472-11	MOTOR, STEPPING (F680) (FOCUS)	
508	3-968-054-11	RUBBER (FM), SHIELD		M906	1-763-471-11	MOTOR, STEPPING (Z680) (ZOOM)	
509	1-758-155-21	FILTER BLOCK, OPTICAL (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)					

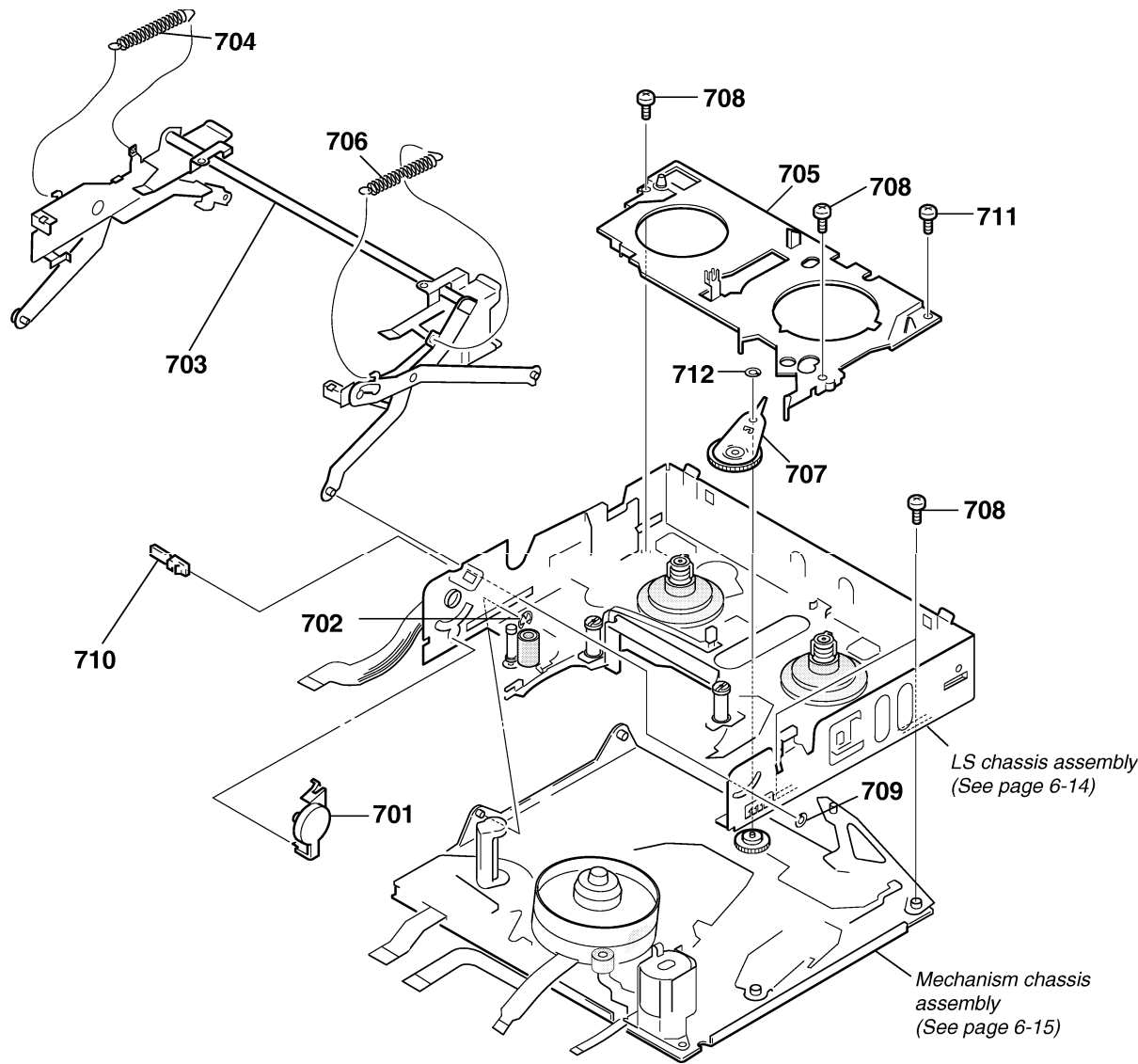
6-1-12.MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark
551	1-676-819-11	FP-157 FLEXIBLE BOARD	
552	A-7094-873-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
552	A-7094-874-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320/TRV320P/TRV520/TRV520P)	
552	A-7094-875-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV525/TRV720)	
552	A-7094-877-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV620E/TRV720E)	
552	A-7094-878-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320E: E, HK, AUS, CN/TRV420E: CN/TRV520E: E, HK, AUS, CN, JE)	
553	A-7074-271-A	FU-138 BOARD, COMPLETE (TRV320/TRV320E/TRV320P)	
553	A-7074-347-A	FU-142 BOARD, COMPLETE (TRV420E/TRV520/TRV520E/TRV520P /TRV525/TRV620E)	
553	A-7074-381-A	FU-144 BOARD, COMPLETE (TRV720/TRV720E)	
554	3-713-786-21	SCREW (M2X3)	
555	1-676-821-11	FP-160 FLEXIBLE BOARD	
556	1-500-226-31	BEAD, FERRITE	
557	3-058-594-01	FRAME (B), MD	
558	1-676-820-11	FP-159 FLEXIBLE BOARD	

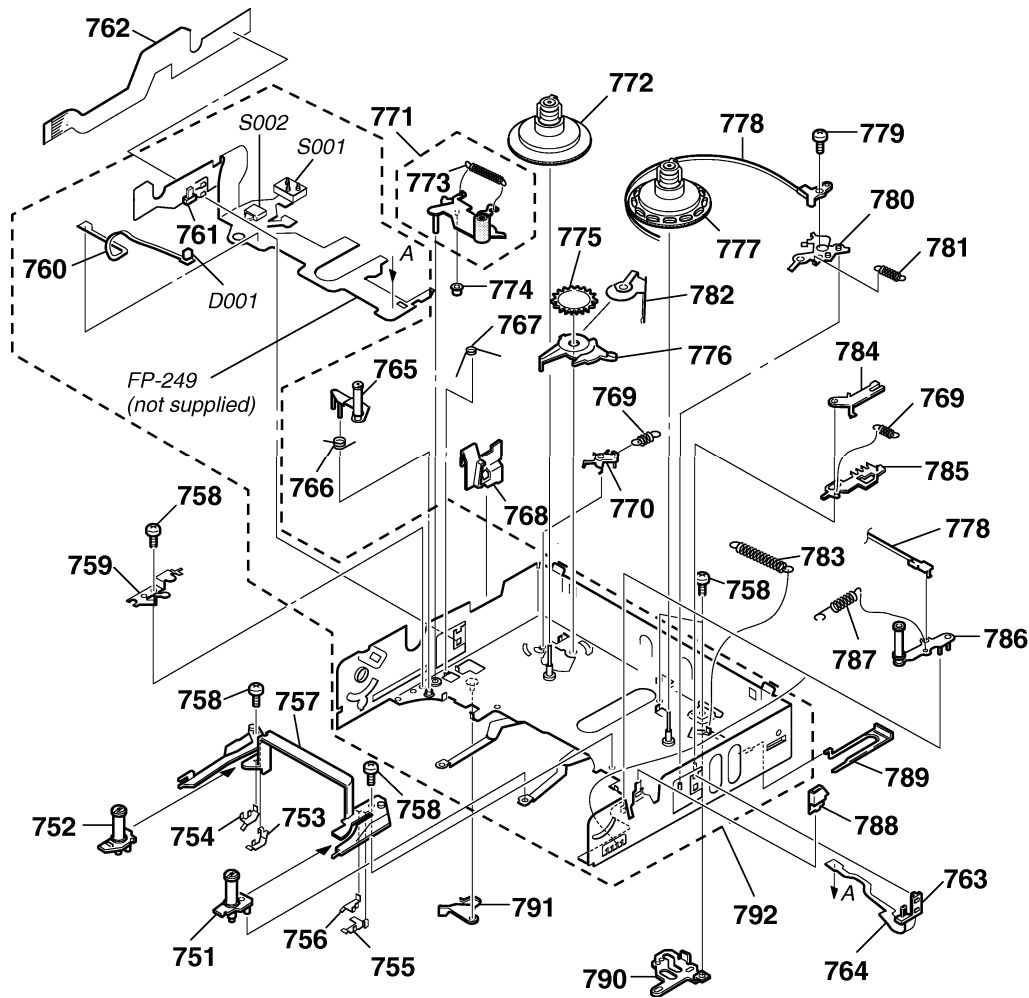
Ref. No.	Part No.	Description	Remark
559	A-7074-329-A	SE-104 BOARD, COMPLETE (TRV320/TRV320P)	
559	A-7074-345-A	SE-112 BOARD, COMPLETE (TRV520/TRV520P/TRV525)	
559	A-7074-353-A	SE-104 BOARD, COMPLETE (TRV320E)	
559	A-7074-369-A	SE-114 BOARD, COMPLETE (TRV720E)	
559	A-7074-375-A	SE-112 BOARD, COMPLETE (TRV420E/TRV520E/TRV620E)	
559	A-7074-379-A	SE-114 BOARD, COMPLETE (TRV720)	
* 560	3-060-001-01	SHEET, MD	
561	3-058-593-01	FRAME (A), MD	
562	X-3950-224-1	LID ASSY, CASSETTE	
* 563	3-061-971-01	SHEET, MD FRAME (B) INSULATING	
564	X-3950-698-1	LID (MS) ASSY, LS	
565	1-418-799-11	SWITCH BLOCK, CONTROL (FK-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/ TRV720/TRV720E)	
565	1-418-799-21	SWITCH BLOCK, CONTROL (FK-10000) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
566	3-941-343-21	TAPE (A)	
567	3-968-729-01	SCREW (2X4)	

6-1-13. CASSETTE COMPARTMENT ASSEMBLY



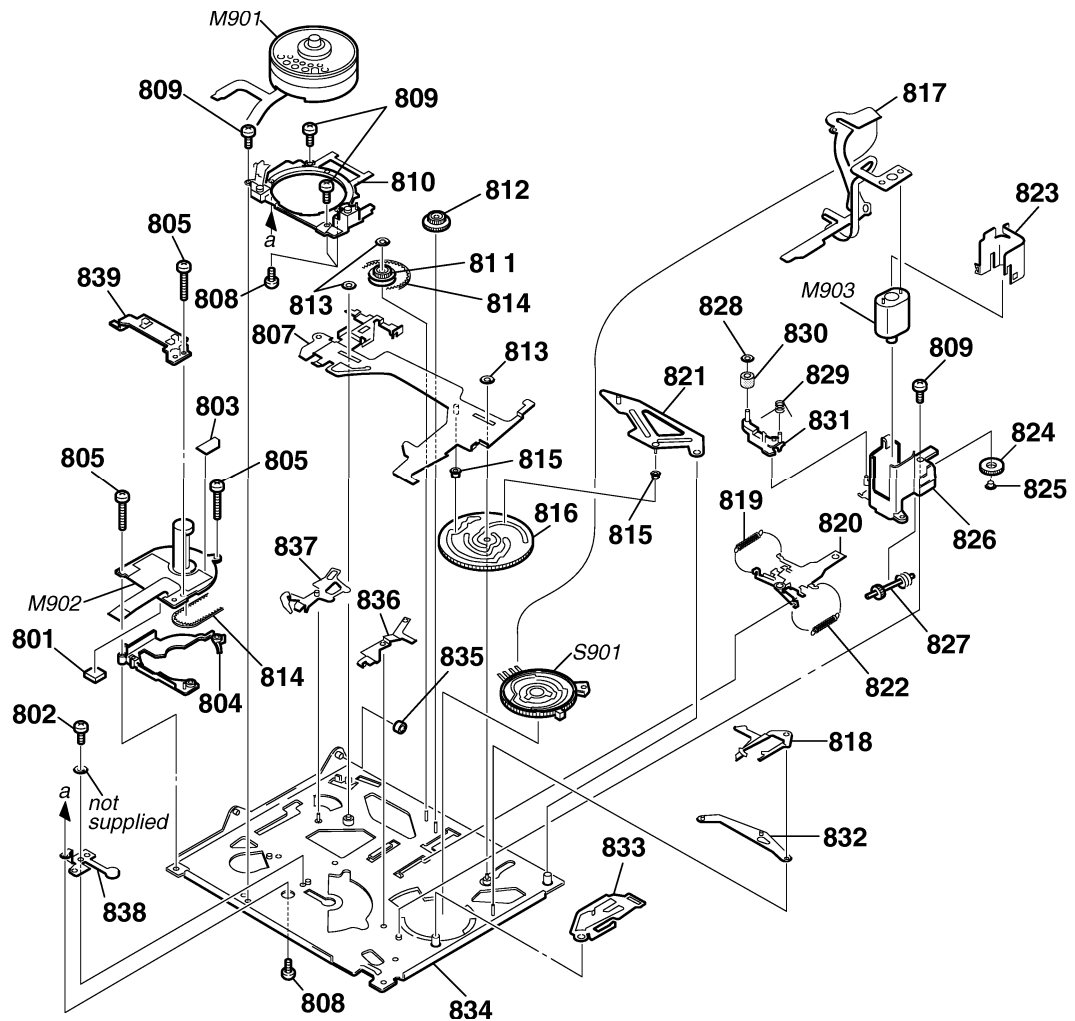
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
701	A-7040-421-A	DAMPER ASSY		707	X-3945-399-1	GEAR ASSY, GOOSENECK	
702	7-624-102-04	STOP RING 1.5, TYPE -E		708	3-947-503-01	SCREW (M1.4)	
703	X-3949-153-2	CASSETTE COMPARTMENT ASSY		709	3-979-686-01	WASHER, STOPPER	
704	3-965-587-03	SPRING (POWER TENSION), TENSION		710	3-971-076-01	FASTENER, D	
705	3-989-479-01	RETAINER (2), GOOSENECK		711	3-976-055-01	SCREW (M1.4X1)	
706	3-973-268-01	SPRING (POWER TENSION), TENSION		712	3-331-007-21	WASHER	

6-1-14. LS CHASSIS ASSEMBLY



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE		774	3-965-579-01	ROLLER, PINCH PRESS	
752	A-7040-418-B	BASE (T) BLOCK ASSY, GUIDE		775	3-965-563-01	GEAR, T SOFT	
753	3-965-559-01	STOPPER (T)		776	3-965-565-01	CLAW, T SOFT	
754	3-965-557-01	STOPPER (T), GB		777	X-3945-397-1	DECK ASSY, REEL, S	
755	3-965-558-01	STOPPER (S)		778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
756	3-965-556-01	STOPPER (S), GB		779	3-945-756-01	SCREW (M1.4X3)	
757	3-965-553-01	RAIL, GUIDE		780	3-965-583-01	ARM, RVS	
758	3-947-503-01	SCREW (M1.4)		781	3-965-580-01	SPRING (ARM, RVS), TENSION	
759	3-965-573-01	RETAINER, TG4		782	3-966-384-01	SPRING, T SOFT	
760	1-658-213-11	FP-355 FLEXIBLE BOARD		783	3-965-578-01	SPRING, TENSION COIL	
761	3-965-552-01	HOLDER (T), SENSOR		784	3-965-560-01	RATCHET, S	
762	1-657-786-13	FP-221 FLEXIBLE BOARD		785	3-965-561-01	PLATE, RELEASE, S RATCHET	
763	3-965-551-01	HOLDER (S), SENSOR		786	X-3945-395-1	ARM ASSY, TG1	
764	1-658-214-11	FP-356 FLEXIBLE BOARD		787	3-965-576-01	SPRING (TG1), TENSION	
765	A-7040-417-A	ARM BLOCK ASSY, TG4		788	3-965-567-01	LID OPEN	
766	3-965-574-01	SPRING (RETURN, TG4), TORSION		789	3-965-566-01	COVER, LS GUIDE	
767	3-965-575-01	SPRING (PINCH), TORSION		* 790	3-965-577-01	PLATE, CAM, LS	
768	3-965-568-11	GUIDE, LOCK		791	3-965-569-01	ARM, EJ	
769	3-965-562-01	SPRING (RATCHET), TENSION		792	A-7040-427-B	CHASSIS (S1) ASSY, LS	
770	3-965-581-03	RATCHET, T		D001	8-719-988-42	DIODE GL453	
771	X-3949-380-1	ARM ASSY (E), PINCH		S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
772	X-3945-398-2	DECK ASSY, REEL,		S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C LOCK)	
773	3-965-648-01	SPRING (PINCH), TENSION					

6-1-15. MECHANISM CHASSIS ASSEMBLY



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
801	3-987-953-01	SPACER, RUBBER		823	3-965-542-01	SHIELD, MOTOR	
802	3-965-550-02	SCREW (M1.7X1.6)		824	3-965-539-01	GEAR (A)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD		825	3-965-538-01	SLEEVE, MOTOR HOLDER	
804	3-054-404-01	SPACER, CAPSTAN		826	3-965-540-01	HOLDER, MOTOR	
805	3-965-549-01	SCREW (M1.4 X 6.5)		827	3-965-541-01	SHAFT, WORM	
807	3-971-644-02	SLIDER (2), M		828	3-321-393-01	WASHER, STOPPER	
808	X-3947-895-1	SCREW ASSY, DRUM ATTACHED		829	3-965-724-01	SPRING (RETURN, HC), TORSION	
809	3-947-503-01	SCREW (M1.4)		830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
810	A-7040-494-A	BASE BLOCK ASSY, DRUM		831	X-3945-407-1	ARM ASSY, HC ROLLER	
811	3-965-527-01	GEAR, CHANGE		832	3-965-531-01	ARM, GL	
812	3-965-544-01	GEAR, RELAY		833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
813	3-331-007-21	WASHER		834	X-3949-589-3	CHASSIS ASSY, MECHANICAL	
814	3-965-546-01	BELT, TIMING		835	3-965-526-02	ROLLER, LS GUIDE	
815	3-965-533-01	ROLLER, LS		836	3-965-547-01	ARM, HC DRIVING	
816	3-965-528-01	GEAR, CAM		837	3-965-534-01	PLATE, PRESS, PINCH	
817	1-657-784-11	FP-220 FLEXIBLE BOARD		838	3-974-320-02	GROUND (IM), SHAFT	
818	3-965-529-01	PLATE, REGULATOR, TENSION		839	3-966-349-01	HOLDER, FLEXIBLE	
819	3-965-536-01	SPRING (LIMITER ARM T), COIL		M901	A-7048-938-A	DRUM BLOCK ASSY (DKH-02A-R)	
820	X-3945-388-1	SLIDER ASSY, GL		M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
821	3-965-532-21	ARM, LS		M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
822	3-965-535-01	SPRING (LIMITER ARM S), COIL		S901	1-762-436-15	SWITCH (ENCODER), ROTARY	

6-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS**
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Abbreviation**
AR : Argentine model EE : East European model KR : Korea model
AUS : Australian model HK : Hong Kong model NE : North European model
CN : Chinese model JE : Tourist model RU : Russian model
CND: Canadian model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS**
In each case, u: μ , for example:
uA. . : μ A. . uPA. . : μ PA. .
uPB. . : μ PB. . uPC. . : μ PC. .
uPD. . : μ PD. .
- CAPACITORS**
uF: μ F
- COILS**
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

About PD-117/118 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-7074-270-A	CD-242 BOARD, COMPLETE (TRV320/TRV320P)			A-7074-279-A	CD-244 BOARD, COMPLETE (TRV320E)	
	A-7074-346-A	CD-266 BOARD, COMPLETE (TRV520/TRV520P/TRV525)			A-7074-376-A	CD-267 BOARD, COMPLETE (TRV420E/TRV520E/TRV620E)	
	A-7074-380-A	CD-270 BOARD, COMPLETE (TRV720)			A-7074-370-A	CD-271 BOARD, COMPLETE (TRV720E)	
	*****				*****		
	(Ref. No.: 20, 000 Series)				(Ref. No.: 20, 000 Series)		
	(IC001 is not included in this complete board)				(IC151 is not included in this complete board)		
	< CAPACITOR >				< CAPACITOR >		
C102	1-119-751-11	TANTAL. CHIP 22uF	20% 16V	C151	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C105	1-107-826-91	CERAMIC CHIP 0.1uF	10% 16V	C152	1-119-751-11	TANTAL. CHIP 22uF	20% 16V
C106	1-113-682-11	TANTAL. CHIP 33uF	20% 10V	C155	1-113-682-11	TANTAL. CHIP 33uF	20% 10V
C108	1-164-360-11	CERAMIC CHIP 0.1uF	16V	C156	1-162-915-11	CERAMIC CHIP 10PF	0.5PF 50V
	< CONNECTOR >			C157	1-164-360-11	CERAMIC CHIP 0.1uF	16V
CN101	1-766-346-21	CONNECTOR, FFC/FPC 16P		C158	1-135-177-21	TANTALUM CHIP 1uF	20% 20V
	< IC >			C159	1-127-820-91	CERAMIC 4.7uF	16V
IC101	A-7030-821-A	CCD BLOCK ASSY (CCD IMAGER)			< CONNECTOR >		
	< COIL >			CN151	1-766-346-21	CONNECTOR, FFC/FPC 16P	
L102	1-469-528-91	INDUCTOR 100uH			< FERRITE BEAD >		
	< TRANSISTOR >			* FB001	1-500-282-11	INDUCTOR CHIP 0uH	
Q101	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1			< IC >		
	< RESISTOR >			IC151	A-7031-072-A	CCD BLOCK ASSY (CCD IMAGER)	
R101	1-216-864-11	METAL CHIP 0	5% 1/16W	IC152	8-759-561-46	IC AD8014ART-REEL7	
R102	1-216-864-11	METAL CHIP 0	5% 1/16W		< COIL >		
R103	1-216-827-11	METAL CHIP 3.3K	5% 1/16W	L151	1-469-528-91	INDUCTOR 100uH	
R105	1-216-857-11	METAL CHIP 1M	5% 1/16W	L152	1-469-528-91	INDUCTOR 100uH	
	< RESISTOR >				< RESISTOR >		
				R151	1-216-808-11	METAL CHIP 82	5% 1/16W
				R154	1-216-821-11	METAL CHIP 1K	5% 1/16W
				R155	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
				R156	1-216-830-11	METAL CHIP 5.6K	5% 1/16W
				R157	1-216-864-11	METAL CHIP 0	5% 1/16W

(Note) Be sure to read "Precautions for Replacement of CCD Imager" on page 4-8, 4-10 when changing the CCD imager

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-7074-327-A	CF-69 BOARD, COMPLETE (TRV320/TRV320E: E, HK, AUS, CN/TRV320P)		R013	1-216-803-11	METAL CHIP 33 5%	1/16W
	A-7074-350-A	CF-69 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU)		R014	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
*****				R015	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
(Ref. No.: 20, 000 Series)				R016	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
< BATTERY HOLDER >				R017	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
BH001	1-550-104-11	HOLDER, BATTERY		R019	1-216-816-11	METAL CHIP 390 5%	1/16W
< CAPACITOR >				R020	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V		R021	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
C009	1-164-346-11	CERAMIC CHIP 1uF 16V		R022	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
C010	1-164-346-11	CERAMIC CHIP 1uF 16V		R023	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
		(TRV320E: AEP, UK, EE, NE, RU)		R024	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
C011	1-164-346-11	CERAMIC CHIP 1uF 16V		R025	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
		(TRV320E: AEP, UK, EE, NE, RU)		R026	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
< CONNECTOR >				R027	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
CN001	1-785-760-21	CONNECTOR, FFC/FPC (ZIF) 45P		R029	1-216-864-11	METAL CHIP 0 5%	1/16W
* CN002	1-785-379-01	HOUSING, CONNECTOR 4P				(TRV320E: AEP, UK, EE, NE, RU)	
CN003	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P		R030	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
CN004	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P		R031	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
CN005	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P		R032	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
CN006	1-779-334-11	CONNECTOR, FFC/FPC 20P		R038	1-216-838-11	METAL CHIP 27K 5%	1/16W
		(TRV320E: AEP, UK, EE, NE, RU)		R039	1-216-838-11	METAL CHIP 27K 5%	1/16W
* CN007	1-778-283-11	CONNECTOR, FFC/FPC 4P		R040	1-216-838-11	METAL CHIP 27K 5%	1/16W
		(TRV320/TRV320E: E, HK, AUS, CN/TRV320P)		R043	1-216-864-11	METAL CHIP 0 5%	1/16W
* CN008	1-580-055-21	PIN, CONNECTOR (SMD) 2P				(TRV320E: AEP, UK, EE, NE, RU)	
< DIODE >				R044	1-216-864-11	METAL CHIP 0 5%	1/16W
		(TRV320E: AEP, UK, EE, NE, RU)				(TRV320E: AEP, UK, EE, NE, RU)	
D001	8-719-062-16	DIODE 01ZA8.2 (TPL3)		R045	1-216-864-11	METAL CHIP 0 5%	1/16W
D005	8-719-069-59	DIODE UDZS-TE17-8.2B				(TRV320E: AEP, UK, EE, NE, RU)	
D006	8-719-069-59	DIODE UDZS-TE17-8.2B		R048	1-216-864-11	METAL CHIP 0 5%	1/16W
D008	8-719-027-76	DIODE 1SS357-TPH3		R051	1-216-864-11	METAL CHIP 0 5%	1/16W
D009	8-719-016-74	DIODE 1SS352-TPH3				(TRV320E: AEP, UK, EE, NE, RU)	
< COIL >				R052	1-216-864-11	METAL CHIP 0 5%	1/16W
		(TRV320E: AEP, UK, EE, NE, RU)		R053	1-216-864-11	METAL CHIP 0 5%	1/16W
L001	1-469-525-91	INDUCTOR 10uH		R054	1-216-814-11	METAL CHIP 270 5%	1/16W
		(TRV320E: AEP, UK, EE, NE, RU)		< SWITCH >			
L002	1-469-525-91	INDUCTOR 10uH		S001	1-771-138-61	SWITCH, KEY BOARD (DIGITAL EFFECT)	
		(TRV320E: AEP, UK, EE, NE, RU)		S002	1-771-138-61	SWITCH, KEY BOARD (+)	
L003	1-469-525-91	INDUCTOR 10uH		S003	1-771-138-61	SWITCH, KEY BOARD (PICTURE EFFECT)	
		(TRV320E: AEP, UK, EE, NE, RU)		S004	1-771-138-61	SWITCH, KEY BOARD (-)	
		(TRV320E: AEP, UK, EE, NE, RU)		S005	1-771-138-61	SWITCH, KEY BOARD (DATA CODE)	
< TRANSISTOR >				S006	1-771-025-41	SWITCH, ROTARY (ENCODER)	
		(TRV320E: AEP, UK, EE, NE, RU)				(SEL/PUSH EXEC)	
Q002	8-729-230-63	TRANSISTOR 2SC4116YG-TE85L		S007	1-771-138-61	SWITCH, KEY BOARD (MENU)	
Q003	8-729-230-72	TRANSISTOR 2SA1362-YG-EL		S008	1-771-138-61	SWITCH, KEY BOARD (INDEX)	
< RESISTOR >				S009	1-771-138-61	SWITCH, KEY BOARD (END SEARCH)	
		(TRV320E: AEP, UK, EE, NE, RU)		S010	1-771-138-61	SWITCH, KEY BOARD (TITLE)	
R001	1-216-833-91	RES-CHIP 10K 5%	1/16W	S011	1-771-138-61	SWITCH, KEY BOARD (DELETE)	
R002	1-216-833-91	RES-CHIP 10K 5%	1/16W	S012	1-771-138-61	SWITCH, KEY BOARD (☺)	
R003	1-216-833-91	RES-CHIP 10K 5%	1/16W	S013	1-771-029-21	SWITCH, TACTILE (EXPOSURE)	
R004	1-216-833-91	RES-CHIP 10K 5%	1/16W	S014	1-771-138-61	SWITCH, KEY BOARD (PB ZOOM)	
R005	1-216-833-91	RES-CHIP 10K 5%	1/16W	S015	1-771-138-61	SWITCH, KEY BOARD (PLAY)	
R006	1-216-822-11	METAL CHIP 1.2K 5%	1/16W	S016	1-771-138-61	SWITCH, KEY BOARD (DISPLAY)	
R007	1-216-822-11	METAL CHIP 1.2K 5%	1/16W	S017	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)	
R008	1-216-822-11	METAL CHIP 1.2K 5%	1/16W	S018	1-771-138-61	SWITCH, KEY BOARD (MEMORY MIX)	
R009	1-216-822-11	METAL CHIP 1.2K 5%	1/16W	S019	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)	
R010	1-216-814-11	METAL CHIP 270 5%	1/16W	S020	1-771-029-31	SWITCH, TACTILE (FADER)	
R011	1-216-864-11	METAL CHIP 0 5%	1/16W				
R012	1-216-845-11	METAL CHIP 100K 5%	1/16W				

CF-70

Ref. No.	Part No.	Description	Remark
	A-7074-344-A	CF-70 BOARD, COMPLETE (TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
	A-7074-373-A	CF-70 BOARD, COMPLETE (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
***** (Ref. No.: 30, 000 Series)			
< BATTERY HOLDER >			
BH001	1-550-104-11	HOLDER, BATTERY	
< CAPACITOR >			
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C009	1-164-346-11	CERAMIC CHIP 1uF 16V (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
C010	1-164-346-11	CERAMIC CHIP 1uF 16V (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
C011	1-164-346-11	CERAMIC CHIP 1uF 16V (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
< CONNECTOR >			
CN001	1-785-760-11	CONNECTOR, FFC/FPC (ZIF) 45P	
* CN002	1-778-283-11	CONNECTOR, FFC/FPC 4P	
CN003	1-794-057-21	PIN, CONNECTOR (PC BOARD) 2P	
CN004	1-794-060-21	PIN, CONNECTOR (PC BOARD) 12P	
CN005	1-794-058-21	PIN, CONNECTOR (PC BOARD) 6P	
CN006	1-779-334-11	CONNECTOR, FFC/FPC 20P (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
* CN007	1-778-283-11	CONNECTOR, FFC/FPC 4P (TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
* CN008	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P	
< DIODE >			
D001	8-719-062-16	DIODE 01ZA8.2 (TLP3)	
D002	8-719-069-59	DIODE UDZS-TE17-8.2B	
D005	8-719-069-59	DIODE UDZS-TE17-8.2B	
D006	8-719-069-59	DIODE UDZS-TE17-8.2B	
D008	8-719-027-76	DIODE 1SS357-TPH3	
D009	8-719-016-74	DIODE 1SS352-TPH3	
< COIL >			
L001	1-469-525-91	INDUCTOR 10uH (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
L002	1-469-525-91	INDUCTOR 10uH (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
L003	1-469-525-91	INDUCTOR 10uH (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
< TRANSISTOR >			
Q002	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q003	8-729-230-72	TRANSISTOR 2SA1362-YG-EL	
< RESISTOR >			
R001	1-216-833-91	RES-CHIP 10K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R002	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R003	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R004	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R005	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R006	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R007	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R008	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R009	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R010	1-216-864-11	METAL CHIP 0 5% 1/16W	
R011	1-216-814-11	METAL CHIP 270 5% 1/16W	
R012	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R013	1-216-803-11	METAL CHIP 33 5% 1/16W	
R014	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R015	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R016	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R017	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R019	1-216-816-11	METAL CHIP 390 5% 1/16W	
R020	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R021	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R022	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R023	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R024	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R025	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R026	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R027	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R029	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
R030	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R031	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R033	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R040	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R041	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R042	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R045	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
R046	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
R047	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
R050	1-216-864-11	METAL CHIP 0 5% 1/16W	
R051	1-216-864-11	METAL CHIP 0 5% 1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)	
R052	1-216-864-11	METAL CHIP 0 5% 1/16W	
R053	1-216-864-11	METAL CHIP 0 5% 1/16W	
R054	1-216-814-11	METAL CHIP 270 5% 1/16W	
< SWITCH >			
S001	1-771-138-61	SWITCH, KEY BOARD (DIGITAL EFFECT)	
S002	1-771-138-61	SWITCH, KEY BOARD (+)	
S003	1-771-138-61	SWITCH, KEY BOARD (PICTURE EFFECT)	
S004	1-771-138-61	SWITCH, KEY BOARD (-)	
S005	1-771-138-61	SWITCH, KEY BOARD (DATA CODE)	
S006	1-771-025-41	SWITCH, ROTARY (ENCODER) (SEL/PUSH EXEC)	
S007	1-771-138-61	SWITCH, KEY BOARD (MENU)	
S008	1-771-138-61	SWITCH, KEY BOARD (INDEX)	
S009	1-771-138-61	SWITCH, KEY BOARD (END SEARCH)	

Ref. No.	Part No.	Description	Remark
S010	1-771-138-61	SWITCH, KEY BOARD (TITLE)	
S011	1-771-138-61	SWITCH, KEY BOARD (DELETE)	
S012	1-771-138-61	SWITCH, KEY BOARD (☺)	
S013	1-771-029-21	SWITCH, TACTILE (EXPOSURE)	
S014	1-771-138-61	SWITCH, KEY BOARD (PB ZOOM)	
S015	1-771-138-61	SWITCH, KEY BOARD (PLAY)	
S016	1-771-138-61	SWITCH, KEY BOARD (DISPLAY)	
S017	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)	
S019	1-771-138-61	SWITCH, KEY BOARD (MEMORY MIX)	
S020	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)	
S021	1-771-029-31	SWITCH, TACTILE (FADER)	
A-7074-378-A CF-72 BOARD, COMPLETE (TRV720/TRV720E)			

(Ref. No.: 10, 000 Series)			
< BATTERY HOLDER >			
BH001	1-550-104-11	HOLDER, BATTERY	
< CAPACITOR >			
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C008	1-164-346-11	CERAMIC CHIP 1uF 16V	
C009	1-164-346-11	CERAMIC CHIP 1uF 16V	
C010	1-164-346-11	CERAMIC CHIP 1uF 16V	
< CONNECTOR >			
CN001	1-785-760-11	CONNECTOR, FFC/FPC (ZIF) 45P	
CN002	1-778-283-11	CONNECTOR, FFC/FPC 4P	
CN003	1-794-057-21	PIN, CONNECTOR (PC BOARD) 2P	
CN004	1-794-060-21	PIN, CONNECTOR (PC BOARD) 12P	
CN005	1-794-058-21	PIN, CONNECTOR (PC BOARD) 6P	
CN006	1-779-334-11	CONNECTOR, FFC/FPC 20P	
* CN008	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P	
CN009	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
< DIODE >			
D001	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
D002	8-719-069-59	DIODE UDZS-TE17-8.2B	
D005	8-719-069-59	DIODE UDZS-TE17-8.2B	
D006	8-719-069-59	DIODE UDZS-TE17-8.2B	
D008	8-719-421-27	DIODE MA728- (K8) .S0	
D009	8-719-016-74	DIODE 1SS352-TPH3	
< COIL >			
L001	1-469-525-91	INDUCTOR 10uH	
L002	1-469-525-91	INDUCTOR 10uH	
L003	1-469-525-91	INDUCTOR 10uH	
< TRANSISTOR >			
Q002	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q003	8-729-230-72	TRANSISTOR 2SA1362-YG-EL	
Q007	8-729-045-86	TRANSISTOR RN2107F (TPL3)	
< RESISTOR >			
R001	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R002	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R003	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R004	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R005	1-216-833-91	RES-CHIP 10K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R006	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R007	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R008	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R009	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R010	1-216-864-11	METAL CHIP 0 5% 1/16W	
R011	1-216-814-11	METAL CHIP 270 5% 1/16W	
R012	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R013	1-216-803-11	METAL CHIP 33 5% 1/16W	
R014	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R015	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R016	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R017	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R019	1-216-816-11	METAL CHIP 390 5% 1/16W	
R020	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R021	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R022	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R024	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R025	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R026	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R029	1-216-864-11	METAL CHIP 0 5% 1/16W	
R030	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R031	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R040	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R041	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R045	1-216-864-11	METAL CHIP 0 5% 1/16W	
R046	1-216-864-11	METAL CHIP 0 5% 1/16W	
R047	1-216-864-11	METAL CHIP 0 5% 1/16W	
R050	1-216-864-11	METAL CHIP 0 5% 1/16W	
R051	1-216-864-11	METAL CHIP 0 5% 1/16W	
R052	1-216-864-11	METAL CHIP 0 5% 1/16W	
R053	1-216-864-11	METAL CHIP 0 5% 1/16W	
R054	1-216-814-11	METAL CHIP 270 5% 1/16W	
< SWITCH >			
S001	1-771-138-61	SWITCH, KEY BOARD (DIGITAL EFFECT)	
S002	1-771-138-61	SWITCH, KEY BOARD (MEMORY +)	
S003	1-771-138-61	SWITCH, KEY BOARD (PICTURE EFFECT)	
S004	1-771-138-61	SWITCH, KEY BOARD (MEMORY -)	
S005	1-771-138-61	SWITCH, KEY BOARD (DATA CODE)	
S007	1-771-138-61	SWITCH, KEY BOARD (MENU)	
S008	1-771-138-61	SWITCH, KEY BOARD (MEMORY INDEX)	
S009	1-771-138-61	SWITCH, KEY BOARD (END SEARCH)	
S010	1-771-138-61	SWITCH, KEY BOARD (TITLE)	
S011	1-771-138-61	SWITCH, KEY BOARD (MEMORY DELETE)	
S012	1-771-138-61	SWITCH, KEY BOARD (☺)	
S014	1-771-138-61	SWITCH, KEY BOARD (PB ZOOM)	
S015	1-771-138-61	SWITCH, KEY BOARD (MEMORY PLAY)	
S016	1-771-138-61	SWITCH, KEY BOARD (DISPLAY)	
S019	1-771-138-61	SWITCH, KEY BOARD (MEMORY MIX)	
FP-249 BOARD, COMPLETE (Not Supplied)			

(Ref. No.: 10, 000 Series)			
1-658-214-11	FP-356 FLEXIBLE BOARD		
3-965-551-01	HOLDER (S), SENSOR		
3-965-552-01	HOLDER (T), SENSOR		
< HOLE ELEMENT >			
H001	8-719-061-28	DIODE HW-105C-FT-V (S REEL SENSOR)	
H002	8-719-061-28	DIODE HW-105C-FT-V (T REEL SENSOR)	

FP-249

FP-355

FU-138/FU-142/FU-144

KP-009

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE END)	
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE TOP)	
< SWITCH >			
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C LOCK)	
1-658-213-11 FP-355 FLEXIBLE BOARD ***** (Ref. No.: 10, 000 Series)			
< DIODE >			
D001	8-719-988-42	DIODE GL453	
A-7074-271-A FU-138 BOARD, COMPLETE (TRV320/TRV320E/TRV320P)			
A-7074-347-A FU-142 BOARD, COMPLETE (TRV420E/TRV520/TRV520E/ TRV520P/TRV525/TRV620E)			
A-7074-381-A FU-144 BOARD, COMPLETE (TRV720/TRV720E) ***** (Ref. No.: 10, 000 Series)			
< CAPACITOR >			
C251	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C252	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C253	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C255	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C256	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C257	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C261	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
< CONNECTOR >			
* CN252	1-580-756-21	PIN, CONNECTOR (SMD) 7P	
CN253	1-691-485-21	CONNECTOR, FFC/FPC 6P	
CN254	1-794-174-21	CONNECTOR BOARD TO BOARD 42P	
< DIODE >			
D251	8-719-069-59	DIODE UDZS-TE17-8.2B	
D252	8-719-027-76	DIODE 1SS357-TPH3	
D253	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
D256	8-719-027-76	DIODE 1SS357-TPH3	
D257	8-719-016-74	DIODE 1SS352-TPH3	
D560	8-719-016-74	DIODE 1SS352-TPH3	
< FUSE >			
△ F251	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
△ F252	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
△ F254	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
△ F256	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
△ F257	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	

Ref. No.	Part No.	Description	Remark
△ F258	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
< COIL >			
L251	1-412-056-11	INDUCTOR CHIP 4.7uH	
< TRANSISTOR >			
Q251	8-729-047-68	TRANSISTOR SSM3K03FE (TPL3)	
Q252	8-729-051-49	TRANSISTOR TPC8305 (TE12L)	
Q253	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q254	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q255	8-729-047-68	TRANSISTOR SSM3K03FE (TPL3)	
Q256	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q257	8-729-042-56	TRANSISTOR MGSF3455VT1	
< RESISTOR >			
R251	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R252	1-216-296-91	SHORT 0	
R253	1-216-296-91	SHORT 0	
R254	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R255	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R256	1-216-150-91	RES-CHIP 10 5% 1/8W	
R257	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R258	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R259	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R260	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R261	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R263	1-216-821-11	METAL CHIP 1K 5% 1/16W	
A-7074-382-A KP-009 BOARD, COMPLETE (TRV720/TRV720E) ***** (Ref. No.: 20, 000 Series)			
< CONNECTOR >			
CN301	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
< RESISTOR >			
R301	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R302	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R303	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R304	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
< SWITCH >			
S301	1-771-029-31	SWITCH, TACTILE (FADER)	
S302	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)	
S303	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)	
S304	1-771-029-21	SWITCH, TACTILE (EXPOSURE)	
S305	1-771-025-41	SWITCH, ROTARY (ENCODER) (SEL/PUSH EXEC)	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

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Ref. No.	Part No.	Description	Remark
A-7074-192-A	LB-62	BOARD, COMPLETE (TRV525/TRV620E/TRV720/TRV720E)	
A-7074-351-A	LB-62	BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	

(Ref. No.: 20, 000 Series)			

< CAPACITOR >

C4601	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C4602	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C4603	1-115-464-91	CERAMIC CHIP	0.0022uF	10%	630V
C4604	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V

< CONNECTOR >

CN4601	1-764-516-21	CONNECTOR, FFC/FPC (ZIF) 6P	
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< DIODE >

D4602	8-719-026-34	DIODE CL-170UR-CD-T (TALLY) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
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< IC >

IC4601	8-759-485-79	IC TC7SET08FU (TE85R)	
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< COIL >

L4601	1-412-031-11	INDUCTOR CHIP	47uH
L4602	1-469-525-91	INDUCTOR	10uH

< FLUORESCENT INDICATOR >

△ND4601	1-517-933-21	FLUORESCENT TUBE (0.44) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
△ND4601	1-517-933-11	FLUORESCENT TUBE (0.44) (TRV525/TRV620E/TRV720/TRV720E)	

< TRANSISTOR >

Q4601	8-729-039-24	TRANSISTOR FX216-TL1	
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< RESISTOR >

R4601	1-216-808-11	METAL CHIP	82	5%	1/16W
R4603	1-216-821-11	METAL CHIP	1K	5%	1/16W
(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)					
R4604	1-216-853-11	METAL CHIP	470K	5%	1/16W

< TRANSFORMER >

△T4601	1-435-225-21	TRANSFORMER, INVERTER	
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Ref. No.	Part No.	Description	Remark
A-7074-421-A	MI-37	BOARD, COMPLETE (TRV320E/TRV420E/TRV520E/ TRV620E/TRV720E)	
A-7074-267-A	MI-37	BOARD, COMPLETE (TRV320/TRV320P/TRV520/ TRV520P/TRV525/TRV720)	

(Ref. No.: 10, 000 Series)			

< CAPACITOR >

C3900	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3901	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)					
C3902	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)					
C3903	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)					
C3904	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3905	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C3906	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C3907	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3908	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3909	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3910	1-119-660-11	TANTAL. CHIP	4.7uF	20%	6.3V
C3911	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3912	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3913	1-164-668-11	CERAMIC CHIP	510PF	5%	50V
C3914	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3915	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3916	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3917	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3918	1-164-844-11	CERAMIC CHIP	4PF	0.25PF	16V
C3919	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C3920	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C3921	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C3922	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3923	1-164-864-11	CERAMIC CHIP	39PF	5%	16V
C3924	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3925	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3926	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3927	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3928	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C3929	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3931	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3933	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C3934	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3935	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3936	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5806	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5807	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5808	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5809	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5810	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5812	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C5813	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C5814	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C5815	1-135-201-11	TANTALUM CHIP	10uF	20%	4V

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Ref. No.	Part No.	Description	Remark		
C5816	1-164-874-11	CERAMIC CHIP 100PF 5%	16V		
C5817	1-164-937-11	CERAMIC CHIP 0.001uF 10%	16V		
C5818	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V		
		(TRV320E/TRV420E/TRV520E/TRV620E/	TRV720E)		
C5819	1-164-874-11	CERAMIC CHIP 100PF 5%	16V		
C5820	1-164-874-11	CERAMIC CHIP 100PF 5%	16V		
C5821	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V		
		(TRV320E/TRV420E/TRV520E/TRV620E/	TRV720E)		
C5822	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V		
C5823	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V		
C5824	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V		
C5825	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V		
C5826	1-110-563-11	CERAMIC CHIP 0.068uF 10%	16V		
C5827	1-110-563-11	CERAMIC CHIP 0.068uF 10%	16V		
C5829	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V		
C5830	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V		
C5832	1-164-245-11	CERAMIC CHIP 0.015uF 10%	25V		
C5833	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V		
C5835	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V		
C5836	1-164-245-11	CERAMIC CHIP 0.015uF 10%	25V		
C5838	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V		
		(TRV320/TRV320P/TRV520/TRV520P/TRV525/	TRV720)		
C5839	1-104-847-11	TANTAL. CHIP 22uF 20%	4V		
C5840	1-165-128-11	CERAMIC CHIP 0.22uF	16V		
C5841	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V		
		(TRV320/TRV320P/TRV520/TRV520P/TRV525/	TRV720)		
C5841	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V		
		(TRV320E/TRV420E/TRV520E/TRV620E/	TRV720E)		
C5842	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V		
		(TRV320E/TRV420E/TRV520E/TRV620E/	TRV720E)		
C5843	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V		
		(TRV320E/TRV420E/TRV520E/TRV620E/	TRV720E)		
C5844	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V		
		(TRV320E/TRV420E/TRV520E/TRV620E/	TRV720E)		
< CONNECTOR >					
CN5801	1-766-344-21	CONNECTOR, FFC/FPC 14P			
* CN5802	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P			
* CN5803	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P			
CN5804	1-794-053-21	CONNECTOR, FFC/FPC (LIF) 32P			
< DIODE >					
D3900	8-719-073-01	DIODE MA111- (K8) .S0			
D3901	8-719-074-30	DIODE SML-310LTT86 (TALLY)			
D3903	8-719-060-65	DIODE DAC3825 (LASER AV LINK)			
D3904	8-719-078-23	DIODE DCR2815 (LASER AV LINK)			
D5806	8-719-062-16	DIODE 01ZA8.2 (TPL3)			
D5807	8-719-069-59	DIODE UDZS-TE17-8.2B			
< FUSE >					
△F3900	1-533-874-11	FUSE, MICRO (200mA/24V)			

Ref. No.	Part No.	Description	Remark		
< IC >					
IC3900	8-749-012-83	IC PNA4S13M01S0			
IC3901	8-759-498-52	IC LA9511W-TBM (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)			
IC3901	8-759-566-96	IC AN2920FHQ-EB (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)			
IC5801	8-759-638-50	IC AN2901FHQ-EB (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)			
IC5801	8-759-679-11	IC BH7870AKV-E2 (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)			
< COIL >					
L3900	1-469-525-91	INDUCTOR	10uH		
L3901	1-469-525-91	INDUCTOR	10uH		
L3902	1-412-948-11	INDUCTOR	5.6uH		
L3903	1-412-957-11	INDUCTOR	33uH		
L3904	1-412-957-11	INDUCTOR	33uH		
L5803	1-412-961-11	INDUCTOR	68uH		
< TRANSISTOR >					
Q3901	8-729-140-75	TRANSISTOR	2SD999-T1-CLCK		
Q3902	8-729-122-63	TRANSISTOR	2SA1226-T1E4		
Q3903	8-729-037-53	TRANSISTOR	2SA1832F-Y/GR (TPL3)		
< RESISTOR >					
R3900	1-218-990-11	SHORT	0		
R3901	1-218-951-11	RES-CHIP	680	5%	1/16W
R3902	1-216-001-00	METAL CHIP	10	5%	1/10W
R3903	1-218-968-11	RES-CHIP	18K	5%	1/16W
R3904	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3905	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3906	1-216-800-11	RES-CHIP	18	5%	1/16W
R3908	1-218-967-11	RES-CHIP	15K	5%	1/16W
R3909	1-218-989-11	RES-CHIP	1M	5%	1/16W
R3910	1-218-990-11	SHORT	0		
R3911	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R3912	1-218-947-11	RES-CHIP	330	5%	1/16W
R3913	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3916	1-218-949-11	RES-CHIP	470	5%	1/16W
R3917	1-218-979-11	RES-CHIP	150K	5%	1/16W
R3918	1-218-979-11	RES-CHIP	150K	5%	1/16W
R3919	1-218-950-11	RES-CHIP	560	5%	1/16W
R3920	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R3921	1-218-949-11	RES-CHIP	470	5%	1/16W
R3922	1-218-972-11	RES-CHIP	39K	5%	1/16W
R3923	1-218-949-11	RES-CHIP	470	5%	1/16W
R3924	1-218-949-11	RES-CHIP	470	5%	1/16W
R3936	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R3938	1-218-990-11	SHORT	0		
R3939	1-218-990-11	SHORT	0		
R5801	1-218-971-11	RES-CHIP	33K	5%	1/16W
R5802	1-218-968-11	RES-CHIP	18K	5%	1/16W
R5803	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5804	1-216-864-11	METAL CHIP	0	5%	1/16W
R5805	1-218-961-11	RES-CHIP	4.7K	5%	1/16W

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R5806	1-218-965-11	RES-CHIP	10K	5%	1/16W	C105	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
R5807	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	C106	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5809	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	C108	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5814	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	C109	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5815	1-218-953-11	RES-CHIP	1K	5%	1/16W	C110	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5816	1-218-953-11	RES-CHIP	1K	5%	1/16W	C111	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5817	1-218-962-11	RES-CHIP	5.6K	5%	1/16W	C112	1-164-846-11	CERAMIC CHIP	6PF	0.50PF	16V
R5818	1-218-962-11	RES-CHIP	5.6K	5%	1/16W	C113	1-164-847-11	CERAMIC CHIP	7PF	0.50PF	16V
R5819	1-218-966-11	RES-CHIP	12K	5%	1/16W	C114	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5820	1-218-969-11	RES-CHIP	22K	5%	1/16W	C115	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5821	1-218-966-11	RES-CHIP	12K	5%	1/16W	C116	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
R5822	1-218-969-11	RES-CHIP	22K	5%	1/16W	C117	1-801-862-11	VARISTOR, CHIP (Note)			
R5823	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	C118	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
R5824	1-218-990-11	SHORT	0			C119	1-801-862-11	VARISTOR, CHIP (Note)			
R5825	1-218-990-11	SHORT	0			C120	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
R5826	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	C121	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5827	1-218-968-11	RES-CHIP	18K	5%	1/16W	C122	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5828	1-218-968-11	RES-CHIP	18K	5%	1/16W	C123	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5829	1-218-971-11	RES-CHIP	33K	5%	1/16W	C125	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5830	1-218-977-11	RES-CHIP	100K	5%	1/16W	C126	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)				C127	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5831	1-218-990-11	SHORT	0			C128	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		(1RV320/1RV320P/1RV520/1RV520P/1RV525/ TRV720)				C129	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5831	1-218-969-11	RES-CHIP	22K	5%	1/16W	C130	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)				C131	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5834	1-218-965-11	RES-CHIP	10K	5%	1/16W	C132	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)				C133	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5834	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	C134	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)				C135	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
R5835	1-218-990-11	SHORT	0			C136	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5836	1-218-990-11	SHORT	0			C137	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
R5837	1-218-990-11	SHORT	0			C138	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5840	1-218-990-11	SHORT	0			C140	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5841	1-218-990-11	SHORT	0			C141	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5845	1-218-947-11	RES-CHIP	330	5%	1/16W	C142	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5846	1-218-990-11	SHORT	0			C143	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)				C144	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
R5847	1-218-990-11	SHORT	0			C145	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)				C146	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
		< VARISTOR >				C147	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
VDR801	1-801-862-11	VARISTOR, CHIP				C148	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
VDR803	1-801-862-11	VARISTOR, CHIP				C150	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
						C151	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
						C154	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
						C155	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C156	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
						C157	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
						C158	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
						C159	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
						C701	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
						C702	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
						C703	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
						C704	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
						C705	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
						C706	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
						C707	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
						C708	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C101	1-107-682-11	CERAMIC CHIP	1uF	10%	16V						
C102	1-107-682-11	CERAMIC CHIP	1uF	10%	16V						
C104	1-107-682-11	CERAMIC CHIP	1uF	10%	16V						

A-7074-328-A PC-77 BOARD, COMPLETE

(Ref. No.: 30, 000 Series)

< CAPACITOR >

Note: Varistors are mounted to the location where C117, 119 are printed

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C710	1-104-851-11	TANTAL. CHIP 10uF 20% 10V		Q105	8-729-045-75	TRANSISTOR RN1107F (TPL3)	
C711	1-164-935-11	CERAMIC CHIP 470PF 10% 16V		Q106	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
C712	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 16V		Q701	8-729-046-98	TRANSISTOR CPH6702-TL	
C713	1-164-942-11	CERAMIC CHIP 0.0068uF 10% 16V		Q702	8-729-046-98	TRANSISTOR CPH6702-TL	
C714	1-110-563-11	CERAMIC CHIP 0.068uF 10% 16V		< RESISTOR >			
C715	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V		R102	1-218-973-11	RES-CHIP 47K 5% 1/16W	
C717	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V		R103	1-218-990-11	SHORT 0	
C718	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V		R104	1-218-953-11	RES-CHIP 1K 5% 1/16W	
C720	1-104-851-11	TANTAL. CHIP 10uF 20% 10V		R105	1-218-990-11	SHORT 0	
C721	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		R106	1-218-977-11	RES-CHIP 100K 5% 1/16W	
C722	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		R107	1-216-864-11	METAL CHIP 0 5% 1/16W	
C727	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V		R108	1-218-973-11	RES-CHIP 47K 5% 1/16W	
C728	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V		R109	1-218-977-11	RES-CHIP 100K 5% 1/16W	
C801	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		R110	1-218-989-11	RES-CHIP 1M 5% 1/16W	
C802	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V		R111	1-218-990-11	SHORT 0	
< CONNECTOR >				R112	1-218-977-11	RES-CHIP 100K 5% 1/16W	
CN801	1-573-350-11	CONNECTOR, FFC/FPC 10P		R113	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
CN802	1-774-603-21	CONNECTOR, BOARD TO BOARD 100P		R114	1-216-864-11	METAL CHIP 0 5% 1/16W	
< DIODE >				R117	1-216-864-11	METAL CHIP 0 5% 1/16W	
D101	8-719-016-74	DIODE 1SS352-TPH3		R118	1-218-990-11	SHORT 0	
D102	8-719-069-59	DIODE UDZS-TE17-8.2B		R119	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
D103	8-719-069-59	DIODE UDZS-TE17-8.2B		R120	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
D104	8-719-069-59	DIODE UDZS-TE17-8.2B		R121	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
< FERRITE BEAD >				R122	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
FB101	1-414-813-11	FERRITE 0uH		R123	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
FB102	1-414-813-11	FERRITE 0uH		R124	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
FB103	1-414-813-11	FERRITE 0uH		R125	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
FB104	1-414-813-11	FERRITE 0uH		R126	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
FB105	1-414-813-11	FERRITE 0uH		R128	1-218-977-11	RES-CHIP 100K 5% 1/16W	
FB106	1-414-813-11	FERRITE 0uH		R129	1-218-953-11	RES-CHIP 1K 5% 1/16W	
FB107	1-414-813-11	FERRITE 0uH		R130	1-218-973-11	RES-CHIP 47K 5% 1/16W	
FB801	1-500-282-11	INDUCTOR CHIP 0uH		R131	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
< IC >				R133	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
IC103	8-759-234-20	IC TC7S08F (TE85R)		R134	1-218-953-11	RES-CHIP 1K 5% 1/16W	
IC104	8-759-495-15	IC uPD4721GS-GJG-E2		R135	1-218-977-11	RES-CHIP 100K 5% 1/16W	
IC105	8-759-668-50	IC HD6417197F77		R136	1-218-977-11	RES-CHIP 100K 5% 1/16W	
IC107	8-759-656-23	IC MB81F161622C-80FN		R137	1-218-977-11	RES-CHIP 100K 5% 1/16W	
IC108	8-759-657-96	IC MB87J1802PFF-G-BND-ER		R138	1-218-961-11	RES-CHIP 4.7K 5% 1/16W	
IC109	8-759-682-51	IC MBM29LV400BC-90PFTN-S108-ER		R139	1-218-977-11	RES-CHIP 100K 5% 1/16W	
IC701	8-759-492-30	IC MB3817PFV-G-BND		R140	1-218-959-11	RES-CHIP 3.3K 5% 1/16W	
IC702	8-759-492-30	IC MB3817PFV-G-BND		R141	1-218-977-11	RES-CHIP 100K 5% 1/16W	
< COIL >				R142	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L101	1-216-295-91	SHORT 0		R143	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L102	1-469-525-91	INDUCTOR 10uH		R144	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L701	1-412-056-11	INDUCTOR 4.7uH		R145	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L702	1-416-345-11	INDUCTOR 22uH		R146	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L703	1-412-056-11	INDUCTOR 4.7uH		R147	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L704	1-412-056-11	INDUCTOR 4.7uH		R148	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L705	1-416-345-11	INDUCTOR 22uH		R149	1-218-977-11	RES-CHIP 100K 5% 1/16W	
L706	1-412-056-11	INDUCTOR 4.7uH		R150	1-218-977-11	RES-CHIP 100K 5% 1/16W	
< TRANSISTOR >				R151	1-218-977-11	RES-CHIP 100K 5% 1/16W	
Q101	8-729-042-29	TRANSISTOR RN1104F (TPL3)		R154	1-218-990-11	SHORT 0	
Q102	8-729-037-61	TRANSISTOR RN2104F (TPL3)		R156	1-218-977-11	RES-CHIP 100K 5% 1/16W	
Q103	8-729-042-29	TRANSISTOR RN1104F (TPL3)		R157	1-218-977-11	RES-CHIP 100K 5% 1/16W	
Q104	8-729-042-29	TRANSISTOR RN1104F (TPL3)		R158	1-218-977-11	RES-CHIP 100K 5% 1/16W	
				R159	1-218-990-11	SHORT 0	
				R160	1-218-990-11	SHORT 0	
				R162	1-218-990-11	SHORT 0	
				R163	1-218-959-11	RES-CHIP 3.3K 5% 1/16W	

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R164	1-218-990-11	SHORT	0			C5522	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R165	1-218-990-11	SHORT	0			C5523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R166	1-218-990-11	SHORT	0			C5524	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
R167	1-218-977-11	RES-CHIP	100K	5%	1/16W	C5527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R168	1-218-990-11	SHORT	0			C5528	1-135-177-21	TANTALUM CHIP	1uF	20%	25V
R170	1-218-953-11	RES-CHIP	1K	5%	1/16W	C5529	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
R172	1-218-990-11	SHORT	0			C5530	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R701	1-218-943-11	RES-CHIP	150	5%	1/16W	C5531	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R702	1-218-965-11	RES-CHIP	10K	5%	1/16W	C5602	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
R703	1-218-967-11	RES-CHIP	15K	5%	1/16W	C5603	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
R704	1-218-887-11	METAL CHIP	47K	0.5%	1/16W	C5604	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
R706	1-218-887-11	METAL CHIP	47K	0.5%	1/16W	C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R707	1-218-867-11	METAL CHIP	6.8K	0.5%	1/16W	C5606	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R708	1-218-943-11	RES-CHIP	150	5%	1/16W	△C5607	1-131-959-91	CERAMIC CHIP	12PF	10%	3KV
R709	1-218-965-11	RES-CHIP	10K	5%	1/16W	C5608	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
R711	1-218-905-11	METAL CHIP	270K	0.5%	1/16W	C5704	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R713	1-218-887-11	METAL CHIP	47K	0.5%	1/16W	< CONNECTOR >					
R714	1-218-883-11	METAL CHIP	33K	0.5%	1/16W	CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P			
R715	1-218-990-11	SHORT	0			* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
R716	1-216-864-11	METAL CHIP	0	5%	1/16W	CN5604	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
R801	1-218-942-11	RES-CHIP	120	5%	1/16W	CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P			
R802	1-218-941-11	RES-CHIP	100	5%	1/16W	CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
< VIBRATOR >						CN5703	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			
X101	1-781-762-21	VIBRATOR, CRYSTAL (25.8048Hz)				CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
A-7074-272-A PD-117 BOARD, COMPLETE						CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P			
(2.5 LCD TYPE S 61K)						< DIODE >					
A-7074-280-A PD-117 BOARD, COMPLETE						D5502	8-713-102-80	DIODE 1T369-01-T8A			
(2.5 LCD TYPE S 123K)						D5503	8-719-073-01	DIODE MA111- (K8) .SO			
*****						△D5601	8-719-073-01	DIODE MA111- (K8) .SO			
(Ref. No.: 20, 000 Series)						D5602	8-719-062-44	DIODE PG1112H-TR (STARTER)			
< CAPACITOR >						< FERRITE BEAD >					
C5501	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	FB5502	1-414-760-21	FERRITE	0uH		
C5503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	FB5503	1-414-760-21	FERRITE	0uH		
C5504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	< IC >					
C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC5501	8-759-660-92	IC RB5P003AM1			
C5506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC5502	8-759-660-91	IC LZ9FF424			
C5507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC5503	8-759-478-92	IC TC7SET04FU (TE85R)			
C5508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	IC5601	8-759-564-49	IC TC7W53FU (TE12R)			
C5509	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V	IC5602	8-759-075-70	IC TA75S393F-TE85R			
C5510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	IC5701	8-759-573-02	IC BU9735K-E2			
C5511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V	< COIL >					
C5512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	L5501	1-469-525-91	INDUCTOR	10uH		
C5513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	L5504	1-469-525-91	INDUCTOR	10uH		
C5514	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V	L5505	1-412-956-21	INDUCTOR	27uH (2.5 LCD TYPE S 61K)		
C5515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	L5505	1-412-949-21	INDUCTOR	6.8uH		(2.5 LCD TYPE S 123K)
C5516	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	L5601	1-419-387-21	INDUCTOR	100uH		
(2.5 LCD TYPE S 61K)						< TRANSISTOR >					
C5516	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	Q5501	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)			
(2.5 LCD TYPE S 123K)						Q5502	8-729-041-23	TRANSISTOR MGSF1P02LT1			
C5517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	Q5503	8-729-037-53	TRANSISTOR 2SB1462J-QR (K8) .SO			
C5518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	Q5504	8-729-037-53	TRANSISTOR 2SB1462J-QR (K8) .SO			
C5519	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V						
C5520	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V						
C5521	1-107-682-11	CERAMIC CHIP	1uF	10%	16V						

The components identified by mark △ or dotted line with * are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-117 (2.5 LCD TYPE S 61K)/PD-117 (2.5 LCD TYPE S 123K)**PD-117 (2.5 LCD TYPE C 61K)**

Ref. No.	Part No.	Description	Remark		
Q5505	8-729-037-52	TRANSISTOR	2SC4738F-Y/GR (TPL3)		
Q5506	8-729-037-52	TRANSISTOR	2SC4738F-Y/GR (TPL3)		
Q5601	8-729-042-29	TRANSISTOR	RN1104F (TPL3)		
Q5602	8-729-039-43	TRANSISTOR	FP216-TL		
Q5603	8-729-042-29	TRANSISTOR	RN1104F (TPL3)		
Q5604	8-729-042-58	TRANSISTOR	RN2102F (TPL3)		
< RESISTOR >					
R5501	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5503	1-218-895-11	METAL CHIP	100K	0.5%	1/16W
R5504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5505	1-216-835-11	METAL CHIP	15K	5%	1/16W
R5506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R5507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5508	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5509	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5510	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5511	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5512	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5513	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5515	1-216-864-11	METAL CHIP	0	5%	1/16W
R5516	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5519	1-216-864-11	METAL CHIP	0	5%	1/16W
R5520	1-216-864-11	METAL CHIP	0	5%	1/16W
R5521	1-216-864-11	METAL CHIP	0	5%	1/16W
R5523	1-216-809-11	METAL CHIP	100	5%	1/16W
R5524	1-216-809-11	METAL CHIP	100	5%	1/16W
R5525	1-216-809-11	METAL CHIP	100	5%	1/16W
R5551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5553	1-216-821-11	METAL CHIP	1K	5%	1/16W
R5553	1-216-825-11	METAL CHIP	2.2K	(2.5 LCD TYPE S 61K)	1/16W
				(2.5 LCD TYPE S 123K)	
R5557	1-216-864-11	METAL CHIP	0	5%	1/16W
R5560	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5562	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5563	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5564	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5565	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5569	1-216-848-11	METAL CHIP	180K	5%	1/16W
R5608	1-216-864-11	METAL CHIP	0	5%	1/16W
R5609	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5610	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5611	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5612	1-216-834-11	METAL CHIP	12K	5%	1/16W
R5613	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5614	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5616	1-216-810-11	METAL CHIP	120	5%	1/16W
R5617	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5618	1-216-817-11	METAL CHIP	470	5%	1/16W
R5702	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R5704	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R5706	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R5707	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R5708	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R5711	1-216-864-11	METAL CHIP	0	5%	1/16W
R5712	1-216-855-11	METAL CHIP	680K	5%	1/16W
R5714	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description	Remark		
< SWITCH >					
S5701	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT +)			
S5702	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT -)			
S5703	1-692-088-41	SWITCH, TACTILE (VOLUME +)			
S5704	1-692-088-41	SWITCH, TACTILE (VOLUME -)			
< TRANSFORMER >					
△ T5601	1-435-226-11	TRANSFORMER, INVERTER			
A-7074-290-A PD-117 BOARD, COMPLETE					
(2.5 LCD TYPE C 61K)					

(Ref. No.: 20, 000 Series)					
< CAPACITOR >					
C5501	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5509	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C5510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C5512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5514	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C5516	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C5517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5519	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5520	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C5521	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5522	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5524	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5529	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C5602	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5603	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C5604	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5606	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
△ C5607	1-131-959-91	CERAMIC CHIP	12PF	10%	3KV
C5608	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5704	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
< CONNECTOR >					
CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P			
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
CN5604	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P			
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN5703	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

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PD-118 (3 LCD TYPE S)/PD-118 (3.5 LCD TYPE S)/PD-118 (4 LCD TYPE S)

Ref. No.	Part No.	Description	Remark
C5516	1-162-926-11	CERAMIC CHIP 82PF 5%	50V (3 LCD TYPE S)
C5517	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C5518	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C5519	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C5520	1-113-994-11	TANTAL. CHIP 6.8uF 20%	16V
C5521	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C5522	1-107-826-91	CERAMIC CHIP 0.1uF 10%	16V
C5523	1-107-826-91	CERAMIC CHIP 0.1uF 10%	16V
C5524	1-107-682-11	CERAMIC CHIP 1uF 10%	16V
C5527	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C5528	1-135-177-21	TANTALUM CHIP 1uF 20%	25V
C5529	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V
C5530	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C5531	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C5602	1-113-682-11	TANTAL. CHIP 33uF 20%	10V
C5603	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C5604	1-164-657-11	CERAMIC CHIP 0.015uF 10%	50V
C5605	1-107-826-91	CERAMIC CHIP 0.1uF 10%	16V
C5606	1-107-826-91	CERAMIC CHIP 0.1uF 10%	16V
△C5607	1-131-959-91	CERAMIC CHIP 12PF 10%	3KV
C5704	1-107-826-91	CERAMIC CHIP 0.1uF 10%	16V

< CONNECTOR >

CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P
* CN5604	1-569-352-11	HOUSING, CONNECTOR 10P
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P
* CN5703	1-778-154-21	CONNECTOR, FFC/FPC (ZIF) 6P
CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P
CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P
CN5707	1-691-374-11	CONNECTOR, FFC/FPC 10P

< DIODE >

D5502	8-713-102-80	DIODE 1T369-01-T8A
D5503	8-719-073-01	DIODE MA111- (K8) .SO
△D5601	8-719-073-01	DIODE MA111- (K8) .SO
D5702	8-719-073-01	DIODE MA111- (K8) .SO

< IC >

IC5501	8-759-660-92	IC RB5P003AM1
IC5502	8-759-660-91	IC LZ9FF424
IC5503	8-759-478-92	IC TC7SET04FU (TE85R)
IC5601	8-759-564-49	IC TC7W53FU (TE12R)
IC5602	8-759-075-70	IC TA75S393F-TE85R

IC5701	8-759-573-02	IC BU9735K-E2
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< COIL >

L5501	1-469-525-91	INDUCTOR 10uH
L5502	1-469-525-91	INDUCTOR 10uH
L5503	1-469-525-91	INDUCTOR 10uH
L5504	1-469-525-91	INDUCTOR 10uH
L5505	1-412-949-21	INDUCTOR 6.8uH
L5601	1-419-387-21	INDUCTOR 100uH

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q5501	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
Q5502	8-729-041-23	TRANSISTOR MGSF1P02LT1	
Q5503	8-729-037-53	TRANSISTOR 2SB1462J-QR (K8) .SO	
Q5504	8-729-037-53	TRANSISTOR 2SB1462J-QR (K8) .SO	
Q5505	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
Q5506	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
Q5601	8-729-037-74	TRANSISTOR UN9213J- (K8) .SO	
Q5602	8-729-039-43	TRANSISTOR FP216-TL	
Q5603	8-729-037-74	TRANSISTOR UN9213J- (K8) .SO	
Q5604	8-729-042-58	TRANSISTOR UN9111J- (K8) .SO	
< RESISTOR >			
R5501	1-216-853-11	METAL CHIP 470K 5%	1/16W
R5503	1-218-895-11	METAL CHIP 100K 0.5%	1/16W
R5504	1-216-845-11	METAL CHIP 100K 5%	1/16W
R5505	1-216-835-11	METAL CHIP 15K 5%	1/16W
R5506	1-216-826-11	METAL CHIP 2.7K 5%	1/16W
R5507	1-216-841-11	METAL CHIP 47K 5%	1/16W
R5508	1-216-843-11	METAL CHIP 68K 5%	1/16W
R5509	1-216-837-11	METAL CHIP 22K 5%	1/16W
R5510	1-216-843-11	METAL CHIP 68K 5%	1/16W
R5511	1-216-857-11	METAL CHIP 1M 5%	1/16W
R5512	1-216-845-11	METAL CHIP 100K 5%	1/16W
R5513	1-216-857-11	METAL CHIP 1M 5%	1/16W
R5515	1-216-864-11	METAL CHIP 0 5%	1/16W
R5516	1-216-833-91	RES-CHIP 10K 5%	1/16W
R5519	1-216-864-11	METAL CHIP 0 5%	1/16W
R5520	1-216-864-11	METAL CHIP 0 5%	1/16W
R5521	1-216-864-11	METAL CHIP 0 5%	1/16W
R5523	1-216-809-11	METAL CHIP 100 5%	1/16W
R5524	1-216-809-11	METAL CHIP 100 5%	1/16W
R5525	1-216-809-11	METAL CHIP 100 5%	1/16W
R5551	1-216-841-11	METAL CHIP 47K 5%	1/16W
R5553	1-216-832-11	METAL CHIP 8.2K 5%	1/16W (4 LCD TYPE S)
R5553	1-216-830-11	METAL CHIP 5.6K 5%	1/16W (3.5 LCD TYPE S)
R5553	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (3 LCD TYPE S)
R5557	1-216-864-11	METAL CHIP 0 5%	1/16W
R5560	1-216-853-11	METAL CHIP 470K 5%	1/16W
R5562	1-216-833-91	RES-CHIP 10K 5%	1/16W
R5563	1-216-841-11	METAL CHIP 47K 5%	1/16W
R5564	1-216-857-11	METAL CHIP 1M 5%	1/16W
R5565	1-216-857-11	METAL CHIP 1M 5%	1/16W
R5569	1-216-848-11	METAL CHIP 180K 5%	1/16W
R5608	1-216-864-11	METAL CHIP 0 5%	1/16W
R5609	1-216-833-91	RES-CHIP 10K 5%	1/16W
R5610	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
R5611	1-216-845-11	METAL CHIP 100K 5%	1/16W
R5612	1-216-834-11	METAL CHIP 12K 5%	1/16W
R5613	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
R5614	1-216-836-11	METAL CHIP 18K 5%	1/16W
R5616	1-216-810-11	METAL CHIP 120 5%	1/16W
R5617	1-216-837-11	METAL CHIP 22K 5%	1/16W
R5618	1-216-817-11	METAL CHIP 470 5%	1/16W
R5702	1-216-822-11	METAL CHIP 1.2K 5%	1/16W

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PD-118 (3 LCD TYPE S)/PD-118 (3.5 LCD TYPE S)/PD-118 (4 LCD TYPE S)

PD-118 (3.5 LCD TYPE C)/PD-118 (4 LCD TYPE C)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R5704	1-216-823-11	METAL CHIP	1.5K 5% 1/16W	* CN5703	1-778-154-21	CONNECTOR, FFC/FPC (ZIF) 6P	
R5706	1-216-825-11	METAL CHIP	2.2K 5% 1/16W	CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
R5707	1-216-828-11	METAL CHIP	3.9K 5% 1/16W	CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P	
				CN5707	1-691-374-11	CONNECTOR, FFC/FPC 10P	
R5708	1-216-832-11	METAL CHIP	8.2K 5% 1/16W	< DIODE >			
R5712	1-216-855-11	METAL CHIP	680K 5% 1/16W	D5502	8-713-102-80	DIODE 1T369-01-T8A	
R5714	1-216-864-11	METAL CHIP	0 5% 1/16W	△D5601	8-719-073-01	DIODE MA111- (K8) .SO	
< TRANSFORMER >				D5702	8-719-073-01	DIODE MA111- (K8) .SO	
△ T5601	1-435-229-21	TRANSFORMER, INVERTER		< IC >			
A-7074-377-A PD-118 BOARD, COMPLETE (3.5 LCD TYPE C)				IC5501	8-759-660-92	IC RB5P003AM1	
A-7074-383-A PD-118 BOARD, COMPLETE (4 LCD TYPE C)				IC5502	8-759-591-93	IC CM7019L3-T4	
*****				IC5601	8-759-564-49	IC TC7W53FU (TE12R)	
(Ref. No.: 30, 000 Series)				IC5602	8-759-075-70	IC TA75S393F-TE85R	
< CAPACITOR >				IC5701	8-759-573-02	IC BU9735K-E2	
C5501	1-119-750-11	TANTAL. CHIP	22uF 20% 6.3V	< COIL >			
C5503	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	L5501	1-469-525-91	INDUCTOR 10uH	
C5504	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	L5502	1-469-525-91	INDUCTOR 10uH	
C5505	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	L5503	1-469-525-91	INDUCTOR 10uH	
C5506	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	L5504	1-469-525-91	INDUCTOR 10uH	
C5507	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	L5505	1-412-950-11	INDUCTOR 8.2uH (3.5 LCD TYPE C)	
C5508	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	L5505	1-412-949-21	INDUCTOR 6.8uH (4 LCD TYPE C)	
C5509	1-107-687-11	TANTAL. CHIP	3.3uF 20% 20V	L5601	1-419-387-21	INDUCTOR 100uH	
C5510	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	< TRANSISTOR >			
C5511	1-164-739-11	CERAMIC CHIP	560PF 5% 50V	Q5501	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
C5512	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	Q5601	8-729-037-74	TRANSISTOR UN9213J- (K8) .SO	
C5513	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	Q5602	8-729-039-43	TRANSISTOR FP216-TL	
C5514	1-119-750-11	TANTAL. CHIP	22uF 20% 6.3V	Q5603	8-729-037-74	TRANSISTOR UN9213J- (K8) .SO	
C5515	1-164-357-11	CERAMIC CHIP	1000PF 5% 50V	Q5604	8-729-042-58	TRANSISTOR UN9111J- (K8) .SO	
C5516	1-162-925-11	CERAMIC CHIP	68PF 5% 50V	< RESISTOR >			
			(3.5 LCD TYPE C)	R5501	1-216-853-11	METAL CHIP 470K 5% 1/16W	
C5516	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	R5503	1-218-895-11	METAL CHIP 100K 0.5% 1/16W	
			(4 LCD TYPE C)	R5504	1-216-845-11	METAL CHIP 100K 5% 1/16W	
C5517	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	R5505	1-216-835-11	METAL CHIP 15K 5% 1/16W	
C5518	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	R5506	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
C5519	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V	R5507	1-216-841-11	METAL CHIP 47K 5% 1/16W	
C5520	1-113-994-11	TANTAL. CHIP	6.8uF 20% 16V	R5508	1-216-843-11	METAL CHIP 68K 5% 1/16W	
C5521	1-107-682-11	CERAMIC CHIP	1uF 10% 16V	R5509	1-216-837-11	METAL CHIP 22K 5% 1/16W	
C5522	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	R5510	1-216-843-11	METAL CHIP 68K 5% 1/16W	
C5523	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	R5511	1-216-857-11	METAL CHIP 1M 5% 1/16W	
C5524	1-107-682-11	CERAMIC CHIP	1uF 10% 16V	R5512	1-216-845-11	METAL CHIP 100K 5% 1/16W	
C5527	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	R5514	1-216-864-11	METAL CHIP 0 5% 1/16W	
C5529	1-107-725-11	CERAMIC CHIP	0.1uF 10% 16V	R5516	1-216-833-91	RES-CHIP 10K 5% 1/16W	
C5602	1-113-682-11	TANTAL. CHIP	33uF 20% 10V	R5517	1-216-846-11	METAL CHIP 120K 5% 1/16W	
C5603	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	R5518	1-216-864-11	METAL CHIP 0 5% 1/16W	
C5604	1-164-657-11	CERAMIC CHIP	0.015uF 10% 50V	R5519	1-216-864-11	METAL CHIP 0 5% 1/16W	
C5605	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	R5520	1-216-864-11	METAL CHIP 0 5% 1/16W	
C5606	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	R5522	1-216-864-11	METAL CHIP 0 5% 1/16W	
△ C5607	1-131-959-91	CERAMIC CHIP	12PF 10% 3KV	R5523	1-216-809-11	METAL CHIP 100 5% 1/16W	
C5704	1-107-826-91	CERAMIC CHIP	0.1uF 10% 16V	R5524	1-216-809-11	METAL CHIP 100 5% 1/16W	
< CONNECTOR >				R5525	1-216-809-11	METAL CHIP 100 5% 1/16W	
CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P		R5551	1-216-841-11	METAL CHIP 47K 5% 1/16W	
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P		R5553	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
* CN5604	1-569-352-11	HOUSING, CONNECTOR 10P		(3.5 LCD TYPE C)			
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P					
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P					

The components identified by mark △ or dotted line with * are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-118 (3.5 LCD TYPE C)/PD-118 (4 LCD TYPE C)

SE-104/SE-112/SE-114

Ref. No.	Part No.	Description	Remark
R5553	1-216-833-91	RES-CHIP 10K 5% 1/16W (4 LCD TYPE C)	
R5557	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5559	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5560	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R5566	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5567	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5568	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5608	1-216-864-11	METAL CHIP 0 5% 1/16W	
R5609	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R5610	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R5611	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R5612	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R5613	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R5614	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R5616	1-216-810-11	METAL CHIP 120 5% 1/16W	
R5617	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R5618	1-216-817-11	METAL CHIP 470 5% 1/16W	
R5702	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R5704	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R5706	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R5707	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R5708	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R5712	1-216-855-11	METAL CHIP 680K 5% 1/16W	
R5714	1-216-864-11	METAL CHIP 0 5% 1/16W	
< TRANSFORMER >			
△ T5601	1-435-229-21	TRANSFORMER, INVERTER	
A-7074-329-A SE-104 BOARD, COMPLETE (TRV320/TRV320P)			
A-7074-353-A SE-104 BOARD, COMPLETE (TRV320E)			
A-7074-345-A SE-112 BOARD, COMPLETE (TRV520/TRV520P/TRV525)			
A-7074-375-A SE-112 BOARD, COMPLETE (TRV420E/TRV520E/TRV620E)			
A-7074-369-A SE-114 BOARD, COMPLETE (TRV720E)			
A-7074-379-A SE-114 BOARD, COMPLETE (TRV720)			
***** (Ref. No.: 20, 000 Series)			
< CAPACITOR >			
C201	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C202	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C203	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C204	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C207	1-164-343-11	CERAMIC CHIP 0.056uF 10% 25V	
C208	1-164-343-11	CERAMIC CHIP 0.056uF 10% 25V	
C209	1-164-343-11	CERAMIC CHIP 0.056uF 10% 25V	
C210	1-110-666-11	ELECT CHIP 22uF 20% 6.3V	
C211	1-164-343-11	CERAMIC CHIP 0.056uF 10% 25V	
C212	1-110-666-11	ELECT CHIP 22uF 20% 6.3V	
C214	1-110-501-11	CERAMIC CHIP 0.33uF 10% 16V	
C220	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C221	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C223	1-803-974-21	VARISTOR, CHIP (Note)	
C225	1-803-974-21	VARISTOR, CHIP (Note)	

Ref. No.	Part No.	Description	Remark
C226	1-803-974-21	VARISTOR, CHIP (Note)	
< CONNECTOR >			
CN201	1-779-369-11	CONNECTOR, SQUARE TYPE (INDI)4P (DV IN/OUT)(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/ TRV520P/TRV520E: E, HK, AUS, CN, JE/TRV525/TRV620E/ TRV720/TRV720E)	
CN201	1-794-080-11	CONNECTOR, SQUARE TYPE (INDI)4P (DV OUT) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
CN202	1-573-368-11	CONNECTOR, FFC/FPC 28P	
< DIODE >			
D202	8-719-072-91	DIODE MAZJ200D0LS0	
D211	8-719-069-59	DIODE UDZS-TE17-8.2B	
D212	8-719-069-59	DIODE UDZS-TE17-8.2B	
< IC >			
IC201	8-759-489-19	IC NJM3230V (TE2)	
< JACK >			
J201	1-694-651-11	TERMINAL BOARD (S VIDEO ID-2) (AUDIO/VIDEO ID-2)	
J202	1-793-995-11	JACK, SUPER SMALL TYPE (LANC/DIGITAL I/O)	
< COIL >			
L201	1-469-525-91	INDUCTOR 10uH	
< RESISTOR >			
R201	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R202	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R203	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R204	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R205	1-216-864-11	METAL CHIP 0 5% 1/16W	
R206	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R207	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R208	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R209	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R211	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R212	1-216-864-11	METAL CHIP 0 5% 1/16W	
R213	1-216-864-11	METAL CHIP 0 5% 1/16W	
R214	1-216-864-11	METAL CHIP 0 5% 1/16W	
R215	1-216-295-91	SHORT 0	
R217	1-216-295-91	SHORT 0	
R219	1-216-864-11	METAL CHIP 0 5% 1/16W	
R220	1-216-864-11	METAL CHIP 0 5% 1/16W	
R224	1-216-864-11	METAL CHIP 0 5% 1/16W	
R225	1-216-864-11	METAL CHIP 0 5% 1/16W	
R226	1-216-864-11	METAL CHIP 0 5% 1/16W	
R227	1-216-864-11	METAL CHIP 0 5% 1/16W	

Note: Varistors are mounted to the location where C223, 225, 226 are printed

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
< SENSOR >													
SE201	1-803-042-31	SENSOR, ANGULAR VELOCITY (PITCH SENSOR) (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)					C1327	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	
							C1328	1-162-974-11	CERAMIC CHIP	0.01uF		50V	
							C1329	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	
							C1330	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	
							C1331	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	
SE201	1-418-252-11	SENSOR, ANGULAR VELOCITY (PITCH SENSOR) (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)					C1332	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	
							C1333	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
							C1334	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V	
SE202	1-803-042-41	SENSOR, ANGULAR VELOCITY (YAW SENSOR) (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)					C1335	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
							C1336	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V	
SE202	1-418-252-21	SENSOR, ANGULAR VELOCITY (YAW SENSOR) (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)					C1337	1-164-506-11	CERAMIC CHIP	4.7uF		16V	
							C1338	1-164-506-11	CERAMIC CHIP	4.7uF		16V	
							C1339	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
							C1340	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
							C1341	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
< VARISTOR >													
VDR001	1-801-923-11	VARISTOR, CHIP					C1342	1-165-319-11	CERAMIC CHIP	0.1uF		50V	
A-7094-874-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320/TRV320P/TRV520/TRV520P)							C1343	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
A-7094-873-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/ TRV520E: AEP)							C1344	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
A-7094-878-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)							C1345	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
A-7094-875-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV525/TRV720)							C1346	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
A-7094-877-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV620E/TRV720E)							C1347	1-135-216-11	TANTALUM CHIP	10uF	20%	10V

(Ref. No.: 10, 000 Series)													
< CAPACITOR >													
C1101	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V		C1359	1-164-506-11	CERAMIC CHIP	4.7uF		16V	
C1301	1-164-933-11	CERAMIC CHIP	220PF	10%	16V		C1501	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C1302	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V		C1502	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1303	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V		C1503	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C1304	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V		C1504	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1305	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720) (Note)						
C1306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V		C1505	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1307	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V		C1506	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V	
C1308	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V		C1507	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1309	1-164-935-11	CERAMIC CHIP	470PF	10%	16V		C1508	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	
C1310	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V		C1509	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1311	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	16V		C1511	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V	
C1312	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V		C1512	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1313	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V		C1513	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V	
C1314	1-164-935-11	CERAMIC CHIP	470PF	10%	16V		C1514	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C1315	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V		(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)						
C1316	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V		C1514	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C1317	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)						
C1318	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V		C1515	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	
C1319	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V		C1516	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C1320	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V		C1517	1-162-928-11	CERAMIC CHIP	120PF	5%	50V	
C1321	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V		C1518	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	
C1322	1-135-201-11	TANTALUM CHIP	10uF	20%	4V		C1519	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	
C1323	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V								
C1326	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V								

Note: C1504 is mounted on the board with suffix number 13
(23, 33)

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C1520	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C3111	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1521	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3112	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1522	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3113	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C3114	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C1524	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C3115	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1525	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3116	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C1552	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3117	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1554	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	C3118	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1556	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3119	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C1558	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C3120	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1559	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C3121	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1560	1-164-935-11	CERAMIC CHIP	470PF	10%	16V	C3122	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1561	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3123	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C1562	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	C3124	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C1563	1-125-839-91	TANTAL. CHIP	47uF	20%	6.3V	C3126	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1564	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C3127	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1565	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C3128	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1566	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3131	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1568	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V	C3133	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1569	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3134	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1570	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3135	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1571	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C3136	1-164-872-11	CERAMIC CHIP	82PF	5%	16V
C1572	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C3137	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2201	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3138	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C2202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C3139	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C2203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3141	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C2204	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C3142	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C2208	1-164-392-11	CERAMIC CHIP	390PF	5%	50V	C3143	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C2210	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3144	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C2211	1-119-660-11	TANTAL. CHIP	4.7uF	20%	6.3V	C3201	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2212	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3202	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2213	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3203	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2215	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2223	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C3205	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2225	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2226	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3207	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2227	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C3208	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2228	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3210	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C2229	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3211	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2230	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	16V	C3212	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2232	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3213	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C2233	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3214	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2234	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3215	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2238	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3216	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2240	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3217	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2242	1-115-156-11	CERAMIC CHIP	1uF		10V	C3218	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2243	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3301	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C2244	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3302	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C2247	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3303	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C2250	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3305	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C2291	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2292	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	C3307	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C2293	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C3308	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C3102	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3309	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3104	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3310	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C3105	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3311	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3107	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3312	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3108	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3313	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3109	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3314	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3110	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3315	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C3316	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C3711	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3317	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3712	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3318	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3713	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3319	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C3714	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3320	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3715	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C3321	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3716	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3322	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V	C3717	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3323	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3718	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3324	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V	C3719	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3325	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C3723	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3326	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V	C3724	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3327	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C3728	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3328	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3729	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3329	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3730	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3331	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C3731	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3332	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3732	1-126-246-11	ELECT CHIP	220uF	20%	4V
C3333	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C3733	1-126-246-11	ELECT CHIP	220uF	20%	4V
C3334	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C3734	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3335	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C3735	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3337	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4401	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3338	1-164-882-11	CERAMIC CHIP	220PF	5%	16V	C4402	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3342	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3343	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V	C4404	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3345	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V	C4405	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3346	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V	C4406	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3348	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V	C4407	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C3601	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C4408	1-104-912-11	TANTAL. CHIP	3.3uF	10%	6.3V
C3603	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3604	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C4410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C4411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3610	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C4412	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3611	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4413	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3612	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4414	1-164-933-11	CERAMIC CHIP	220PF	10%	16V
C3613	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4415	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C3614	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4416	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3615	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4417	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3616	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4418	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C3617	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4419	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3618	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4420	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3619	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4421	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3620	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4424	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3621	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4425	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3622	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4426	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3626	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C4427	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3628	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4428	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C3629	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C4429	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C3630	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C4430	1-164-505-11	CERAMIC CHIP	2.2uF	10%	16V
C3631	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C4431	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3632	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4432	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3633	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C4433	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3634	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C4434	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3636	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	C4435	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C3701	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4436	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C3704	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	C4501	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3705	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	C4504	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3706	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C4505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3707	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	C4506	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3708	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V	C4507	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3709	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	C4508	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3710	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V	C4509	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C4510	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5731	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4801	1-115-156-11	CERAMIC CHIP	1uF 10V	C5732	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4802	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5733	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4803	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5734	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4804	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5735	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V
C4805	1-104-851-11	TANTAL. CHIP	10uF 20% 10V	C5736	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4806	1-119-749-11	TANTAL. CHIP	33uF 20% 4V	C5737	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4807	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5738	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4808	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5739	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V
C4809	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5740	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4810	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5741	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4811	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5742	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C4812	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5743	1-164-937-11	CERAMIC CHIP	0.001uF 10% 16V
C4813	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5744	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C4814	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5745	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C4816	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5746	1-117-863-11	CERAMIC CHIP	0.47uF 10% 6.3V
C4817	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5747	1-117-863-11	CERAMIC CHIP	0.47uF 10% 6.3V
C4819	1-107-819-11	CERAMIC CHIP	0.022uF 10% 16V	C5748	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C4820	1-164-942-11	CERAMIC CHIP	0.0068uF 10% 16V	C5749	1-164-870-11	CERAMIC CHIP	68PF 5% 16V
C4821	1-164-858-11	CERAMIC CHIP	22PF 5% 16V	C5750	1-135-201-11	TANTALUM CHIP	10uF 20% 4V
C4822	1-164-854-11	CERAMIC CHIP	15PF 5% 16V	C5751	1-135-201-11	TANTALUM CHIP	10uF 20% 4V
C4823	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5752	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C4824	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5753	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V
C4825	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	C5754	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4826	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5755	1-164-942-11	CERAMIC CHIP	0.0068uF 10% 16V
C4902	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	C5756	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4903	1-164-850-11	CERAMIC CHIP	10PF 0.50PF 16V	C5757	1-164-942-11	CERAMIC CHIP	0.0068uF 10% 16V
C4904	1-164-850-11	CERAMIC CHIP	10PF 0.50PF 16V	C5758	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4905	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	C5759	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V
C4906	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	< CONNECTOR >			
C4907	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	CN1101	1-766-340-21	CONNECTOR, FFC/FPC 10P	
C4908	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	CN1103	1-766-358-21	CONNECTOR, FFC/FPC 28P	
C4909	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	CN1104	1-774-598-41	CONNECTOR, BOARD TO BOARD 100P	
C4910	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	CN1105	1-785-760-11	CONNECTOR, FFC/FPC (ZIF) 45P	
C4911	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V	CN1107	1-766-342-21	CONNECTOR, FFC/FPC 12P	
C5701	1-135-201-11	TANTALUM CHIP	10uF 20% 4V	CN1108	1-766-350-21	CONNECTOR, FFC/FPC 20P	
C5702	1-135-201-11	TANTALUM CHIP	10uF 20% 4V	CN1109	1-794-059-21	PIN, CONNECTOR (PC BOARD) 8P	
C5703	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	CN1111	1-770-107-21	CONNECTOR, FFC/FPC (ZIF) 32P	
C5704	1-135-259-11	TANTAL. CHIP	10uF 20% 6.3V	* CN1113	1-766-971-21	CONNECTOR, BOARD TO BOARD 42P	
C5705	1-104-847-11	TANTAL. CHIP	22uF 20% 4V	CN1501	1-779-332-11	CONNECTOR, FFC/FPC 16P	
C5706	1-135-259-11	TANTAL. CHIP	10uF 20% 6.3V	CN1551	1-750-360-21	CONNECTOR, FFC/FPC (ZIF) 24P	
C5709	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	CN3101	1-766-346-21	CONNECTOR, FFC/FPC 16P	
C5710	1-164-943-11	CERAMIC CHIP	0.01uF 10% 16V	CN4401	1-766-644-21	CONNECTOR, FFC/FPC 8P	
C5711	1-110-569-11	TANTAL. CHIP	47uF 20% 6.3V	CN4402	1-766-340-21	CONNECTOR, FFC/FPC 10P	
C5712	1-110-569-11	TANTAL. CHIP	47uF 20% 6.3V	CN4403	1-766-342-21	CONNECTOR, FFC/FPC 12P	
C5713	1-117-863-11	CERAMIC CHIP	0.47uF 10% 6.3V	CN4404	1-766-345-21	CONNECTOR, FFC/FPC 15P	
C5714	1-135-259-11	TANTAL. CHIP	10uF 20% 6.3V	< DIODE >			
C5715	1-135-180-21	TANTALUM CHIP	3.3uF 20% 6.3V	D1101	8-719-069-59	DIODE UDZS-TE17-8.2B	
C5716	1-135-259-11	TANTAL. CHIP	10uF 20% 6.3V	D1102	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
C5717	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	D1103	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
C5718	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	D1104	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
C5719	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	D1301	8-719-027-76	DIODE 1SS357-TPH3	
C5721	1-164-939-11	CERAMIC CHIP	0.0022uF 10% 16V	D1302	8-719-027-77	DIODE MA796-TX	
C5722	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	D1305	8-719-027-76	DIODE 1SS357-TPH3	
C5723	1-104-847-11	TANTAL. CHIP	22uF 20% 4V	D1306	8-719-027-76	DIODE 1SS357-TPH3	
C5724	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V	D1501	8-713-103-84	DIODE 1T379-01-T8A	
C5725	1-125-837-91	CERAMIC CHIP	1uF 10% 6.3V	D1551	8-719-073-01	DIODE MA111- (K8) .S0	
C5728	1-125-777-11	CERAMIC CHIP	0.1uF 10% 10V				
C5730	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V				

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D2201	8-719-055-86	DIODE KV1470TL1-3		IC3701	8-759-599-37	IC AN2225FHQ-EB	
D2202	8-719-055-86	DIODE KV1470TL1-3		IC4401	8-759-640-85	IC CXA8096R-TBM	
D3301	8-719-992-02	DIODE RB705D-T146		IC4501	8-759-680-15	IC MB91192PFF-G-114-BND-ER	
D3302	8-719-055-86	DIODE KV1470TL1-3		IC4502	8-759-593-47	IC AK6417AM-E2	
D3303	8-719-992-02	DIODE RB705D-T146				(TRV320/TRV320P/TRV520/TRV520P/ TRV525/TRV720)	
D3304	8-719-055-86	DIODE KV1470TL1-3		IC4502	8-759-640-87	IC BR9016RFV-E2	
D4401	8-719-075-12	DIODE MA3XD21001S0				(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)	
D4801	8-719-073-01	DIODE MA111- (K8) .S0		IC4801	8-759-424-79	IC S-8423YFS-T2	
D4802	8-719-073-01	DIODE MA111- (K8) .S0		IC4802	8-759-642-45	IC TL1596CPWR	
D4803	8-719-073-01	DIODE MA111- (K8) .S0		IC4803	8-759-680-69	IC S579631PZ-TEB	
D4804	8-719-073-01	DIODE MA111- (K8) .S0		IC4901	8-759-445-94	IC AK6480AM-E2	
D4808	8-719-027-76	DIODE 1SS357-TPH3		IC4902	8-759-680-04	IC MB91192PFF-G-112-BND-ER	
D4809	8-719-027-76	DIODE 1SS357-TPH3					
D4810	8-719-069-59	DIODE UDZS-TE17-8.2B		IC5701	8-752-093-72	IC CXA3284R-T6	
D4811	8-719-073-01	DIODE MA111- (K8) .S0		IC5702	8-759-647-71	IC AK4550VT-E2	
< FERRITE BEAD >				< COIL >			
FB1501	1-414-760-21	FERRITE	0uH	L1301	1-416-670-11	INDUCTOR	33uH
FB1502	1-500-284-21	INDUCTOR CHIP	0uH	L1302	1-416-669-11	INDUCTOR	22uH
FB1503	1-500-284-21	INDUCTOR CHIP	0uH	L1303	1-416-669-11	INDUCTOR	22uH
FB1504	1-414-760-21	FERRITE	0uH	L1304	1-416-669-11	INDUCTOR	22uH
FB1505	1-500-284-21	INDUCTOR CHIP	0uH	L1305	1-416-669-11	INDUCTOR	22uH
FB2202	1-414-760-21	FERRITE	0uH	L1306	1-412-056-11	INDUCTOR	4.7uH
FB2203	1-414-760-21	FERRITE	0uH	L1307	1-412-056-11	INDUCTOR	4.7uH
FB2204	1-414-760-21	FERRITE	0uH	L1308	1-469-524-91	INDUCTOR	4.7uH
FB2205	1-414-760-21	FERRITE	0uH	L1309	1-469-524-91	INDUCTOR	4.7uH
FB2291	1-414-760-21	FERRITE	0uH	L1310	1-412-056-11	INDUCTOR	4.7uH
FB3303	1-414-760-21	FERRITE	0uH	L1311	1-469-524-91	INDUCTOR	4.7uH
FB3304	1-414-760-21	FERRITE	0uH	L1312	1-469-524-91	INDUCTOR	4.7uH
FB3307	1-414-760-21	FERRITE	0uH	L1313	1-469-524-91	INDUCTOR	4.7uH
FB3601	1-414-760-21	FERRITE	0uH	L1314	1-469-524-91	INDUCTOR	4.7uH
FB3701	1-414-760-21	FERRITE	0uH	L1315	1-469-524-91	INDUCTOR	4.7uH
FB4501	1-414-760-21	FERRITE	0uH	L1316	1-414-400-11	INDUCTOR	22uH
FB4801	1-414-760-21	FERRITE	0uH	L1317	1-416-669-11	INDUCTOR	22uH
FB4901	1-414-760-21	FERRITE	0uH	L1318	1-469-524-91	INDUCTOR	4.7uH
< IC >				L1320	1-469-526-91	INDUCTOR	22uH
IC1301	8-752-090-20	IC CXA3057R-T6		L1321	1-469-524-91	INDUCTOR	4.7uH
IC1302	8-759-652-10	IC TK11119SCL		L1501	1-469-525-91	INDUCTOR	10uH
IC1303	8-759-650-28	IC RN5RZ59BA-TL		L1551	1-469-525-91	INDUCTOR	10uH
IC1501	8-752-386-72	IC CXD2444R-T4		L1552	1-469-525-91	INDUCTOR	10uH
IC1502	8-759-638-69	IC VSP2200Y-2K		L1553	1-469-525-91	INDUCTOR	10uH
IC1552	8-759-444-87	IC NJM324V (TE2)		L2201	1-469-525-91	INDUCTOR	10uH
IC1553	8-759-637-96	IC uPD16877MA-6A5-E2		L2202	1-469-525-91	INDUCTOR	10uH
IC2201	8-752-402-75	IC CXD1453R		L2203	1-469-525-91	INDUCTOR	10uH
IC2202	8-759-058-60	IC TC7SU04FU (TE85R)		L2204	1-469-525-91	INDUCTOR	10uH
IC2291	8-759-169-02	IC MB88344BPFV-G-BND-ER		L2207	1-412-945-11	INDUCTOR	3.3uH
		(TRV320/TRV320P/TRV520/TRV520P/ TRV525/TRV720)		L2208	1-469-525-91	INDUCTOR	10uH
IC2291	8-759-536-93	IC M62371GP-600D		L2209	1-469-525-91	INDUCTOR	10uH
		(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)		L2291	1-469-525-91	INDUCTOR	10uH
IC3101	8-752-086-52	IC CXA2071R-T4		L3102	1-469-525-91	INDUCTOR	10uH
IC3102	8-759-195-81	IC TC7S86FU (TE85R)		L3103	1-469-525-91	INDUCTOR	10uH
IC3103	8-752-086-53	IC CXA2072R-T4		L3104	1-469-525-91	INDUCTOR	10uH
IC3201	8-752-093-69	IC CXA3265R-T4		L3105	1-414-406-11	INDUCTOR	220uH
IC3202	8-759-075-70	IC TA75S393F-TE85R		L3106	1-412-952-11	INDUCTOR	12uH
IC3301	8-759-650-74	IC CAIN		L3201	1-469-526-91	INDUCTOR	22uH
IC3302	8-759-641-50	IC MB90099PFV-G-102-BND-ER		L3303	1-412-936-11	INDUCTOR	0.56uH
IC3303	8-759-566-52	IC SN104266PN-TEB		L3304	1-414-246-11	INDUCTOR	1.8uH
IC3603	8-759-653-60	IC MB87L1241PFV-G-BND-ER		L3305	1-469-525-91	INDUCTOR	10uH
				L3306	1-469-525-91	INDUCTOR	10uH
				L3307	1-469-525-91	INDUCTOR	10uH

Ref. No.	Part No.	Description	Remark
L3601	1-469-525-91	INDUCTOR 10uH	
L3602	1-469-525-91	INDUCTOR 10uH	
L3701	1-469-525-91	INDUCTOR 10uH	
L3705	1-469-525-91	INDUCTOR 10uH	
L5701	1-414-754-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q1101	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q1102	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q1103	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1104	8-729-042-29	TRANSISTOR RN1104F (TPL3) (TRV320/TRV320E/TRV320P/TRV420E/ TRV520/TRV520E/TRV520P)	
Q1301	8-729-043-60	TRANSISTOR CPH6102-TL	
Q1302	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1303	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1304	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1305	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1306	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1307	8-729-044-58	TRANSISTOR SI2304DS-T1	
Q1308	8-729-044-58	TRANSISTOR SI2304DS-T1	
Q1309	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1310	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1311	8-729-017-61	TRANSISTOR 2SB1581-T1	
Q1312	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1313	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1314	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q1315	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1316	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1317	8-729-037-74	TRANSISTOR UN9213J- (K8) .SO (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
Q1318	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1319	8-729-041-23	TRANSISTOR MGSF1P02LT1 (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
Q1320	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1321	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1322	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1323	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1324	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1325	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1326	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1551	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1552	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1553	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1554	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q2204	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q2206	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3102	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3103	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3104	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3105	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3106	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3107	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3108	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3109	8-729-042-58	TRANSISTOR RN2102F (TPL3)	
Q3110	8-729-042-58	TRANSISTOR RN2102F (TPL3)	
Q3111	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	

Ref. No.	Part No.	Description	Remark
Q3112	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3113	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3114	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3115	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3116	8-729-047-19	TRANSISTOR 2SA1965-S-TL	
Q3201	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3301	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3) (TRV525/TRV620E/TRV720/TRV720E)	
Q3302	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3303	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3) (TRV525/TRV620E/TRV720/TRV720E)	
Q3304	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3305	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3306	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3307	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3308	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3602	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3603	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3604	8-729-807-86	TRANSISTOR 2SB1295-UL5/6-TB	
Q3605	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3606	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3701	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4401	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4402	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4801	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4802	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4803	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4804	8-729-041-43	TRANSISTOR HN1L02FU (TE85R)	
Q4805	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4806	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4807	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4808	8-729-037-61	TRANSISTOR RN2104F (TPL3)	
Q4809	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q4810	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
Q4811	8-729-042-57	TRANSISTOR UN9110J- (K8) .SO	
Q4812	8-729-037-71	TRANSISTOR UN9210J- (K8) .SO	
Q4901	8-729-045-71	TRANSISTOR RN1102F (TPL3)	
Q5701	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5703	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5704	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5706	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5708	8-729-037-63	TRANSISTOR RN2111F (TPL3)	
Q5714	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q5715	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
< RESISTOR >			
R1101	1-218-990-11	SHORT 0	
R1124	1-218-990-11	SHORT 0	
R1127	1-218-974-11	RES-CHIP 56K 5% 1/16W (TRV320/TRV320P/TRV520/TRV520P)	
R1127	1-218-965-11	RES-CHIP 10K 5% 1/16W (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)	
R1127	1-218-969-11	RES-CHIP 22K 5% 1/16W (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
R1127	1-218-973-11	RES-CHIP 47K 5% 1/16W (TRV620E/TRV720E)	
R1127	1-218-977-11	RES-CHIP 100K 5% 1/16W (TRV525/TRV720)	
R1128	1-218-975-11	RES-CHIP 68K 5% 1/16W (TRV320/TRV320P/TRV520/TRV520P)	

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R1128	1-218-973-11	RES-CHIP	47K	5%	1/16W (TRV525/TRV720)	R1328	1-218-989-11	RES-CHIP	1M	5%	1/16W (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
R1128	1-218-977-11	RES-CHIP	100K	5%	1/16W (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)	R1329	1-218-989-11	RES-CHIP	1M	5%	1/16W (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
R1129	1-218-953-11	RES-CHIP	1K	5%	1/16W	R1330	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R1130	1-218-990-11	SHORT	0			R1331	1-218-968-11	RES-CHIP	18K	5%	1/16W
R1131	1-218-975-11	RES-CHIP	68K	5%	1/16W (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)	R1332	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R1131	1-218-977-11	RES-CHIP	100K	5%	1/16W (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)	R1333	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1132	1-218-974-11	RES-CHIP	56K	5%	1/16W (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)	R1334	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1132	1-218-973-11	RES-CHIP	47K	5%	1/16W (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)	R1335	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1137	1-218-953-11	RES-CHIP	1K	5%	1/16W	R1336	1-218-969-11	RES-CHIP	22K	5%	1/16W
R1141	1-216-295-91	SHORT	0			R1337	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1142	1-218-953-11	RES-CHIP	1K	5%	1/16W	R1338	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R1143	1-218-953-11	RES-CHIP	1K	5%	1/16W	R1339	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R1144	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R1340	1-218-967-11	RES-CHIP	15K	5%	1/16W
R1145	1-218-990-11	SHORT	0			R1341	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1146	1-218-951-11	RES-CHIP	680	5%	1/16W	R1342	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R1147	1-218-973-11	RES-CHIP	47K	5%	1/16W	R1343	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R1301	1-218-969-11	RES-CHIP	22K	5%	1/16W	R1344	1-218-990-11	SHORT	0		(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E/TRV720/TRV720E)
R1302	1-218-971-11	RES-CHIP	33K	5%	1/16W	R1345	1-218-990-11	SHORT	0		
R1303	1-218-985-11	METAL CHIP	470K	0.5%	1/16W	R1347	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R1304	1-218-971-11	RES-CHIP	33K	5%	1/16W	R1348	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R1305	1-218-990-11	SHORT	0			R1501	1-216-864-11	METAL CHIP	0	5%	1/16W
R1306	1-218-969-11	RES-CHIP	22K	5%	1/16W	R1502	1-216-864-11	METAL CHIP	0	5%	1/16W
R1307	1-218-990-11	SHORT	0			R1503	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1308	1-218-990-11	SHORT	0			R1504	1-218-941-11	RES-CHIP	100	5%	1/16W
R1309	1-218-965-11	RES-CHIP	10K	5%	1/16W	R1505	1-218-941-11	RES-CHIP	100	5%	1/16W
R1310	1-218-990-11	SHORT	0			R1511	1-218-990-11	SHORT	0		
R1311	1-218-971-11	RES-CHIP	33K	5%	1/16W	R1512	1-218-985-11	RES-CHIP	470K	5%	1/16W
R1312	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R1514	1-218-990-11	SHORT	0		
R1313	1-218-969-11	RES-CHIP	22K	5%	1/16W	R1520	1-218-990-11	SHORT	0		
R1314	1-218-969-11	RES-CHIP	22K	5%	1/16W	R1551	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1315	1-218-990-11	SHORT	0			R1552	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1316	1-216-864-11	METAL CHIP	0	5%	1/16W	R1553	1-216-295-91	SHORT	0		
R1317	1-218-973-11	RES-CHIP	47K	5%	1/16W	R1555	1-218-975-11	RES-CHIP	68K	5%	1/16W
R1318	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R1556	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1319	1-218-973-11	RES-CHIP	47K	5%	1/16W	R1557	1-218-975-11	RES-CHIP	68K	5%	1/16W
R1320	1-218-969-11	RES-CHIP	22K	5%	1/16W	R1558	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1321	1-208-715-11	METAL CHIP	22K	0.5%	1/16W	R1559	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1322	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	R1560	1-218-929-11	RES-CHIP	10	5%	1/16W
R1323	1-218-977-11	RES-CHIP	100K	5%	1/16W	R1561	1-218-989-11	RES-CHIP	1M	5%	1/16W
R1324	1-217-671-11	METAL CHIP	1	5%	1/10W (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E/TRV720/TRV720E)	R1562	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R1325	1-217-671-11	METAL CHIP	1	5%	1/10W (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E/TRV720/TRV720E)	R1563	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1326	1-218-965-11	RES-CHIP	10K	5%	1/16W	R1564	1-218-981-11	RES-CHIP	220K	5%	1/16W
R1327	1-218-969-11	RES-CHIP	22K	5%	1/16W	R1565	1-218-985-11	RES-CHIP	470K	5%	1/16W
						R1566	1-218-985-11	RES-CHIP	470K	5%	1/16W
						R1567	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
						R1568	1-218-967-11	RES-CHIP	15K	5%	1/16W
						R1569	1-218-969-11	RES-CHIP	22K	5%	1/16W
						R1570	1-218-985-11	RES-CHIP	470K	5%	1/16W
						R1571	1-218-953-11	RES-CHIP	1K	5%	1/16W
						R1572	1-218-953-11	RES-CHIP	1K	5%	1/16W
						R1573	1-218-947-11	RES-CHIP	330	5%	1/16W
						R1574	1-218-969-11	RES-CHIP	22K	5%	1/16W

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R1575	1-218-953-11	RES-CHIP	1K	5%	1/16W	R3133	1-218-945-11	RES-CHIP	220	5%	1/16W
R1576	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3136	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R1577	1-218-973-11	RES-CHIP	47K	5%	1/16W	R3137	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2205	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3138	1-218-941-11	RES-CHIP	100	5%	1/16W
R2206	1-218-977-11	RES-CHIP	100K	5%	1/16W	R3139	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R2208	1-218-990-11	SHORT	0			R3140	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R2209	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3141	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R2210	1-218-954-11	RES-CHIP	1.2K	5%	1/16W	R3142	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R2211	1-218-990-11	SHORT	0			R3143	1-218-938-11	RES-CHIP	56	5%	1/16W
R2213	1-218-962-11	RES-CHIP	5.6K	5%	1/16W	R3144	1-218-950-11	RES-CHIP	560	5%	1/16W
R2215	1-218-953-11	RES-CHIP	1K	5%	1/16W	R3146	1-216-295-91	SHORT	0		
R2216	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	R3205	1-218-985-11	RES-CHIP	470K	5%	1/16W
R2218	1-218-949-11	RES-CHIP	470	5%	1/16W	R3206	1-218-985-11	RES-CHIP	470K	5%	1/16W
R2219	1-218-941-11	RES-CHIP	100	5%	1/16W	R3210	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2220	1-218-972-11	RES-CHIP	39K	5%	1/16W	R3211	1-218-990-11	SHORT	0		
R2221	1-218-952-11	RES-CHIP	820	5%	1/16W	R3212	1-218-986-11	RES-CHIP	560K	5%	1/16W
R2222	1-218-959-11	RES-CHIP	3.3K	5%	1/16W	R3213	1-218-985-11	RES-CHIP	470K	5%	1/16W
R2224	1-218-966-11	RES-CHIP	12K	5%	1/16W	R3214	1-218-981-11	RES-CHIP	220K	5%	1/16W
R2225	1-218-949-11	RES-CHIP	470	5%	1/16W	R3215	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R2230	1-218-990-11	SHORT	0			R3305	1-218-990-11	SHORT	0		
R2240	1-218-989-11	RES-CHIP	1M	5%	1/16W	R3306	1-218-990-11	SHORT	0		
R2242	1-218-967-11	RES-CHIP	15K	5%	1/16W	R3308	1-218-990-11	SHORT	0		
R2243	1-218-967-11	RES-CHIP	15K	5%	1/16W	R3309	1-218-990-11	SHORT	0		
R2244	1-218-966-11	RES-CHIP	12K	5%	1/16W	R3310	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2245	1-218-949-11	RES-CHIP	470	5%	1/16W	R3311	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2247	1-218-953-11	RES-CHIP	1K	5%	1/16W	R3312	1-218-946-11	RES-CHIP	270	5%	1/16W
R2248	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3313	1-218-990-11	SHORT	0		
R2254	1-218-990-11	SHORT	0			R3314	1-218-990-11	SHORT	0		
R2255	1-218-990-11	SHORT	0			R3315	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R2256	1-216-864-11	METAL CHIP	0	5%	1/16W	R3316	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3103	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3317	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3104	1-218-963-11	RES-CHIP	6.8K	5%	1/16W	R3318	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3105	1-218-990-11	SHORT	0			R3319	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3106	1-218-990-11	SHORT	0			R3320	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3107	1-218-979-11	RES-CHIP	150K	5%	1/16W	R3321	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3108	1-218-989-11	RES-CHIP	1M	5%	1/16W	R3322	1-218-941-11	RES-CHIP	100	5%	1/16W
R3109	1-218-966-11	RES-CHIP	12K	5%	1/16W	R3323	1-218-947-11	RES-CHIP	330	5%	1/16W
R3110	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3324	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3111	1-218-949-11	RES-CHIP	470	5%	1/16W	R3325	1-218-937-11	RES-CHIP	47	5%	1/16W
R3112	1-218-939-11	RES-CHIP	68	5%	1/16W	R3326	1-218-990-11	SHORT	0		
R3113	1-218-966-11	RES-CHIP	12K	5%	1/16W	R3327	1-208-886-81	METAL CHIP	910	0.5%	1/16W
R3114	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	(TRV525/TRV620E/TRV720/TRV720E)					
R3115	1-218-965-11	RES-CHIP	10K	5%	1/16W	R3328	1-218-849-11	METAL CHIP	1.2K	0.5%	1/16W
R3116	1-218-990-11	SHORT	0			R3329	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3117	1-218-969-11	RES-CHIP	22K	5%	1/16W	(TRV525/TRV620E/TRV720/TRV720E)					
R3118	1-220-196-11	METAL CHIP	13K	0.5%	1/16W	R3331	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3119	1-218-970-11	METAL CHIP	27K	0.5%	1/16W	R3332	1-208-886-81	METAL CHIP	910	0.5%	1/16W
R3120	1-208-715-11	METAL CHIP	22K	0.5%	1/16W	(TRV525/TRV620E/TRV720/TRV720E)					
R3121	1-208-709-11	METAL CHIP	12K	0.5%	1/16W	R3333	1-218-990-11	SHORT	0		
R3122	1-208-931-11	METAL CHIP	68K	0.5%	1/16W	R3334	1-218-849-11	METAL CHIP	1.2K	0.5%	1/16W
R3123	1-218-969-11	RES-CHIP	22K	5%	1/16W	R3335	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3124	1-218-969-11	RES-CHIP	22K	5%	1/16W	(TRV525/TRV620E/TRV720/TRV720E)					
R3125	1-218-945-11	METAL CHIP	220	0.5%	1/16W	R3336	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3126	1-218-969-11	RES-CHIP	22K	5%	1/16W	R3337	1-218-990-11	SHORT	0		
R3127	1-218-971-11	RES-CHIP	33K	5%	1/16W	R3338	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R3128	1-218-965-11	RES-CHIP	10K	5%	1/16W	(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)					
R3129	1-218-945-11	METAL CHIP	220	0.5%	1/16W	R3338	1-208-886-81	METAL CHIP	910	0.5%	1/16W
R3130	1-218-945-11	METAL CHIP	220	0.5%	1/16W	(TRV525/TRV620E/TRV720/TRV720E)					
R3131	1-218-945-11	METAL CHIP	220	0.5%	1/16W						
R3132	1-218-946-11	RES-CHIP	270	5%	1/16W						

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R3338	1-218-953-11	RES-CHIP	1K	5%	1/16W (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	R3705	1-218-981-11	RES-CHIP	220K	5%	1/16W
R3340	1-218-849-11	METAL CHIP	1.2K	0.5%	1/16W	R3712	1-218-936-11	RES-CHIP	39	5%	1/16W
R3341	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R3713	1-218-935-11	RES-CHIP	33	5%	1/16W
R3343	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R3714	1-218-936-11	RES-CHIP	39	5%	1/16W
R3346	1-218-990-11	SHORT	0			R3715	1-218-935-11	RES-CHIP	33	5%	1/16W
R3349	1-218-990-11	SHORT	0			R3716	1-218-936-11	RES-CHIP	39	5%	1/16W
R3350	1-218-990-11	SHORT	0			R3717	1-218-935-11	RES-CHIP	33	5%	1/16W
R3351	1-218-954-11	RES-CHIP	1.2K	5%	1/16W	R3721	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R3352	1-218-990-11	SHORT	0			R3722	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3356	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	R3724	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3358	1-218-945-11	RES-CHIP	220	5%	1/16W	R3726	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3360	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	R3727	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3361	1-208-709-11	METAL CHIP	12K	0.5%	1/16W	R3728	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3362	1-218-990-11	SHORT	0			R3729	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3364	1-208-709-11	METAL CHIP	12K	0.5%	1/16W	R3730	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3365	1-218-990-11	SHORT	0			R3734	1-216-295-91	SHORT	0		
R3367	1-218-938-11	METAL CHIP	56	0.5%	1/16W	R4401	1-218-973-11	RES-CHIP	47K	5%	1/16W
R3368	1-218-938-11	METAL CHIP	56	0.5%	1/16W	R4402	1-218-983-11	RES-CHIP	330K	5%	1/16W
R3369	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	R4403	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3370	1-218-938-11	METAL CHIP	56	0.5%	1/16W	R4404	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3371	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	R4405	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3372	1-218-938-11	METAL CHIP	56	0.5%	1/16W	R4406	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3375	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4407	1-218-949-11	RES-CHIP	470	5%	1/16W
R3376	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4408	1-217-671-11	METAL CHIP	1	5%	1/10W
R3377	1-218-941-11	RES-CHIP	100	5%	1/16W	R4409	1-217-671-11	METAL CHIP	1	5%	1/10W
R3378	1-218-941-11	RES-CHIP	100	5%	1/16W	R4410	1-217-671-11	METAL CHIP	1	5%	1/10W
R3379	1-218-941-11	RES-CHIP	100	5%	1/16W	R4411	1-216-023-00	METAL CHIP	82	5%	1/10W
R3380	1-218-941-11	RES-CHIP	100	5%	1/16W	R4413	1-218-990-11	SHORT	0		
R3381	1-218-941-11	RES-CHIP	100	5%	1/16W	R4414	1-218-946-11	RES-CHIP	270	5%	1/16W
R3382	1-218-990-11	SHORT	0			R4416	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3383	1-218-990-11	SHORT	0			R4417	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R3385	1-216-864-11	METAL CHIP	0	5%	1/16W	R4423	1-218-990-11	SHORT	0		
R3386	1-216-864-11	METAL CHIP	0	5%	1/16W	R4424	1-218-967-11	RES-CHIP	15K	5%	1/16W (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
R3387	1-218-990-11	SHORT	0			R4424	1-218-973-11	RES-CHIP	47K	5%	1/16W (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
R3388	1-218-990-11	SHORT	0			R4425	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3604	1-218-990-11	SHORT	0			R4426	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3607	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4427	1-218-990-11	SHORT	0		
R3609	1-218-990-11	SHORT	0					(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)			
R3611	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4427	1-218-965-11	RES-CHIP	10K	5%	1/16W (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
R3612	1-218-973-11	RES-CHIP	47K	5%	1/16W	R4428	1-217-671-11	METAL CHIP	1	5%	1/10W
R3617	1-218-951-11	RES-CHIP	680	5%	1/16W	R4429	1-217-671-11	METAL CHIP	1	5%	1/10W
R3618	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4430	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3622	1-218-949-11	RES-CHIP	470	5%	1/16W	R4431	1-218-967-11	RES-CHIP	15K	5%	1/16W (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
R3636	1-218-990-11	SHORT	0			R4431	1-218-973-11	RES-CHIP	47K	5%	1/16W (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
R3639	1-218-990-11	SHORT	0			R4432	1-218-973-11	RES-CHIP	47K	5%	1/16W
R3643	1-218-990-11	SHORT	0			R4434	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3652	1-218-990-11	SHORT	0			R4435	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3656	1-218-990-11	SHORT	0			R4436	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3657	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4437	1-218-990-11	SHORT	0		
R3658	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4438	1-218-990-11	SHORT	0		
R3659	1-218-960-11	RES-CHIP	3.9K	5%	1/16W	R4442	1-218-990-11	SHORT	0		
R3660	1-218-957-11	RES-CHIP	2.2K	5%	1/16W						
R3701	1-218-961-11	RES-CHIP	4.7K	5%	1/16W						
R3702	1-218-961-11	RES-CHIP	4.7K	5%	1/16W						
R3704	1-218-941-11	RES-CHIP	100	5%	1/16W						

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Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R4443	1-218-990-11	SHORT	0			R4829	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4444	1-218-990-11	SHORT	0			R4830	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4445	1-218-990-11	SHORT	0			R4831	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4446	1-218-990-11	SHORT	0			R4832	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4447	1-218-971-11	RES-CHIP	33K	5%	1/16W	R4833	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4448	1-218-971-11	RES-CHIP	33K	5%	1/16W	R4834	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4502	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4835	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4503	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4836	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4504	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4837	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4505	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4838	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4507	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4839	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4508	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4840	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4511	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4841	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4512	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R4842	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4514	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4843	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4515	1-218-990-11	SHORT	0			R4844	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4516	1-218-990-11	SHORT	0			R4845	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4517	1-218-990-11	SHORT	0			R4846	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4518	1-218-990-11	SHORT	0			R4847	1-218-979-11	RES-CHIP	150K	5%	1/16W
R4520	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4848	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4521	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4849	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4522	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4850	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4523	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4851	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4524	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4852	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4525	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4853	1-218-949-11	RES-CHIP	470	5%	1/16W
R4526	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4856	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4527	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4861	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4528	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4862	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4529	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4863	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4530	1-218-949-11	RES-CHIP	470	5%	1/16W	R4864	1-218-986-11	RES-CHIP	560K	5%	1/16W
R4531	1-218-990-11	SHORT	0			R4866	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4532	1-218-990-11	SHORT	0			R4867	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4533	1-218-990-11	SHORT	0			R4868	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4534	1-218-990-11	SHORT	0			R4869	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4801	1-218-973-11	RES-CHIP	47K	5%	1/16W	R4871	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4802	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R4872	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4803	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4873	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4804	1-218-965-11	RES-CHIP	10K	5%	1/16W	R4874	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4806	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4875	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4807	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	R4876	1-219-570-11	RES-CHIP	10M	5%	1/16W
R4808	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4877	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4809	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4878	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4810	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4879	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4811	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4880	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4813	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4881	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4814	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4882	1-218-949-11	RES-CHIP	470	5%	1/16W
R4815	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4883	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4816	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4884	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4817	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4885	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4818	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4886	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4819	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4887	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4820	1-218-977-11	RES-CHIP	100K	5%	1/16W	R4888	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4821	1-218-985-11	RES-CHIP	470K	5%	1/16W	R4892	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4822	1-218-973-11	RES-CHIP	47K	5%	1/16W	R4894	1-218-990-11	SHORT	0		
R4823	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	R4895	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4824	1-218-958-11	RES-CHIP	2.7K	5%	1/16W	R4897	1-218-990-11	SHORT	0		
R4825	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4898	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4826	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4899	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4827	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4901	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4828	1-218-953-11	RES-CHIP	1K	5%	1/16W	R4902	1-218-986-11	RES-CHIP	560K	5%	1/16W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R4903	1-218-990-11	SHORT	0	R5731	1-218-949-11	RES-CHIP	470 5% 1/16W
R4904	1-218-977-11	RES-CHIP	100K 5% 1/16W	R5732	1-218-949-11	RES-CHIP	470 5% 1/16W
R4906	1-218-990-11	SHORT	0	R5733	1-218-985-11	RES-CHIP	470K 5% 1/16W
R4908	1-218-977-11	RES-CHIP	100K 5% 1/16W	R5735	1-218-990-11	SHORT	0
R4910	1-218-977-11	RES-CHIP	100K 5% 1/16W	R5736	1-218-990-11	SHORT	0
R4911	1-218-977-11	RES-CHIP	100K 5% 1/16W	R5737	1-218-990-11	SHORT	0
R4912	1-218-961-11	RES-CHIP	4.7K 5% 1/16W	R5738	1-218-990-11	SHORT	0
R4913	1-218-957-11	RES-CHIP	2.2K 5% 1/16W	R5739	1-218-990-11	SHORT	0
R4914	1-218-990-11	SHORT	0	R5740	1-218-990-11	SHORT	0
R4915	1-218-961-11	RES-CHIP	4.7K 5% 1/16W	R5741	1-218-990-11	SHORT	0
R4916	1-218-961-11	RES-CHIP	4.7K 5% 1/16W	R5742	1-218-965-11	RES-CHIP	10K 5% 1/16W
R4917	1-218-953-11	RES-CHIP	1K 5% 1/16W	R5743	1-218-965-11	RES-CHIP	10K 5% 1/16W
R4918	1-218-957-11	RES-CHIP	2.2K 5% 1/16W	R5744	1-218-973-11	RES-CHIP	47K 5% 1/16W
R4919	1-218-990-11	SHORT	0	R5745	1-218-965-11	RES-CHIP	10K 5% 1/16W
R4920	1-218-965-11	RES-CHIP	10K 5% 1/16W	R5746	1-218-965-11	RES-CHIP	10K 5% 1/16W
R4921	1-218-965-11	RES-CHIP	10K 5% 1/16W	R5747	1-218-973-11	RES-CHIP	47K 5% 1/16W
R4922	1-218-973-11	RES-CHIP	47K 5% 1/16W	< TRANSFORMER >			
R4923	1-218-973-11	RES-CHIP	47K 5% 1/16W	T1301	1-435-252-11	TRANSFORMER, DC-DC CONVERTER	
R4924	1-218-973-11	RES-CHIP	47K 5% 1/16W	< VIBRATOR >			
R4925	1-218-985-11	RES-CHIP	470K 5% 1/16W	X1501	1-767-586-21	VIBRATOR, CRYSTAL (27MHZ) (TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)	
R4926	1-218-985-11	RES-CHIP	470K 5% 1/16W	X1501	1-767-400-11	VIBRATOR, CRYSTAL (36MHz) (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)	
R4927	1-218-973-11	RES-CHIP	47K 5% 1/16W	X3301	1-767-399-11	VIBRATOR, CRYSTAL (24.576MHZ)	
R4928	1-218-977-11	RES-CHIP	100K 5% 1/16W	X4801	1-767-980-21	VIBRATOR, CERAMIC (20MHZ)	
R4929	1-218-977-11	RES-CHIP	100K 5% 1/16W	X4802	1-760-458-21	VIBRATOR, CRYSTAL (32.768KHZ)	
R4930	1-218-977-11	RES-CHIP	100K 5% 1/16W	X4901	1-760-655-41	VIBRATOR, CRYSTAL (20MHZ)	
R4931	1-218-973-11	RES-CHIP	47K 5% 1/16W	A-7073-838-A VF-129 BOARD, COMPLETE (TRV320/TRV320P/TRV520/TRV520P)			
R4932	1-218-973-11	RES-CHIP	47K 5% 1/16W	A-7073-855-A VF-129 BOARD, COMPLETE (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)			
R4933	1-218-990-11	SHORT	0	***** (Ref. No.: 20, 000 Series)			
R4934	1-218-990-11	SHORT	0	< CAPACITOR >			
R4935	1-218-977-11	RES-CHIP	100K 5% 1/16W	C901	1-107-854-11	TANTAL. CHIP	68uF 20% 6.3V
R4936	1-218-977-11	RES-CHIP	100K 5% 1/16W	C902	1-163-038-91	CERAMIC CHIP	0.1uF 25V
R4938	1-218-977-11	RES-CHIP	100K 5% 1/16W	C903	1-135-145-11	TANTALUM CHIP	0.47uF 10% 35V
R4939	1-218-977-11	RES-CHIP	100K 5% 1/16W	C904	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V
R4940	1-218-977-11	RES-CHIP	100K 5% 1/16W	C905	1-104-752-11	TANTAL. CHIP	33uF 20% 6.3V
R4941	1-218-990-11	SHORT	0	C906	1-162-638-11	CERAMIC CHIP	1uF 16V
R4942	1-218-990-11	SHORT	0	C907	1-104-563-11	FILM CHIP	0.1uF 5% 16V
R4943	1-218-953-11	RES-CHIP	1K 5% 1/16W	C908	1-162-920-11	CERAMIC CHIP	27PF 5% 50V
R4944	1-218-953-11	RES-CHIP	1K 5% 1/16W	C909	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
R5701	1-218-990-11	SHORT	0	△C910	1-162-625-11	CERAMIC CHIP	0.0047uF 5% 50V
R5702	1-218-990-11	SHORT	0	△C911	1-164-715-11	CERAMIC CHIP	0.0068uF 5% 50V
R5707	1-218-953-11	RES-CHIP	1K 5% 1/16W	C912	1-107-854-11	TANTAL. CHIP	68uF 20% 6.3V
R5708	1-218-953-11	RES-CHIP	1K 5% 1/16W	C913	1-135-145-11	TANTALUM CHIP	0.47uF 10% 35V
R5709	1-218-973-11	RES-CHIP	47K 5% 1/16W	C914	1-113-984-11	TANTAL. CHIP	1.5uF 20% 35V
R5710	1-218-965-11	RES-CHIP	10K 5% 1/16W	C915	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V
R5711	1-218-941-11	RES-CHIP	100 5% 1/16W	C916	1-164-611-11	CERAMIC CHIP	0.001uF 10% 500V
R5712	1-218-941-11	RES-CHIP	100 5% 1/16W				
R5714	1-218-973-11	RES-CHIP	47K 5% 1/16W				
R5715	1-218-965-11	RES-CHIP	10K 5% 1/16W				
R5717	1-218-953-11	RES-CHIP	1K 5% 1/16W				
R5718	1-218-967-11	RES-CHIP	15K 5% 1/16W				
R5719	1-218-976-11	RES-CHIP	82K 5% 1/16W				
R5720	1-218-979-11	RES-CHIP	150K 5% 1/16W				
R5721	1-218-973-11	RES-CHIP	47K 5% 1/16W				
R5722	1-218-990-11	SHORT	0				
R5723	1-218-990-11	SHORT	0				
R5724	1-218-985-11	RES-CHIP	470K 5% 1/16W				
R5725	1-218-985-11	RES-CHIP	470K 5% 1/16W				
R5730	1-218-952-11	RES-CHIP	820 5% 1/16W				

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
* CN901	1-785-379-01	HOUSING, CONNECTOR 4P	
* CN902	1-580-057-11	PIN, CONNECTOR (SMD) 4P	
< DIODE >			
D901	8-719-951-21	DIODE PR1102W-TR (TALLY)	
D903	8-719-073-01	DIODE MA111- (K8) .S0	
< IC >			
IC901	8-759-196-14	IC BA7149F-E2	
< COIL >			
L901	1-412-031-11	INDUCTOR CHIP 47uH	
L902	1-410-387-11	INDUCTOR CHIP 33uH	
△L903	1-411-697-11	COIL, FERRITE (HLC)	
< TRANSISTOR >			
Q901	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q902	8-729-106-68	TRANSISTOR 2SD1615-T1GLGK	
Q903	8-729-216-31	TRANSISTOR 2SA1163G-TE85L	
Q904	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
< RESISTOR >			
R901	1-216-817-11	METAL CHIP 470 5% 1/16W	
R902	1-216-817-11	METAL CHIP 470 5% 1/16W	
R903	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R904	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R905	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R906	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R907	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R908	1-216-852-11	METAL CHIP 390K 5% 1/16W	
R909	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R910	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R911	1-216-160-00	RES-CHIP 27 5% 1/8W	
R912	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R915	1-218-879-11	METAL CHIP 22K 0.5% 1/16W (TRV320/TRV320P/TRV520/TRV520P)	
R916	1-218-881-11	METAL CHIP 27K 0.5% 1/16W (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)	
R917	1-218-893-11	METAL CHIP 82K 0.5% 1/16W (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)	
R917	1-218-891-11	METAL CHIP 68K 0.5% 1/16W (TRV320/TRV320P/TRV520/TRV520P)	
R918	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R919	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R920	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R921	1-216-795-11	RES-CHIP 6.8 5% 1/16W	
R922	1-216-850-11	METAL CHIP 270K 5% 1/16W	
R923	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R924	1-216-862-11	RES-CHIP 2.7M 5% 1/16W	
R925	1-216-862-11	RES-CHIP 2.7M 5% 1/16W	
R926	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R927	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R928	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R929	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R930	1-216-791-11	METAL CHIP 3.3 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R931	1-217-671-11	METAL CHIP 1 5% 1/10W	
R932	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
< VARIABLE RESISTOR >			
RV903	1-238-852-11	RES, ADJ, CERMET 470	
RV904	1-238-095-11	RES, ADJ, CERMET 470K	
< TRANSFORMER >			
△T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK	
< FLAT CABLE >			
△W901	1-540-019-21	SOCKET ASSY, CRT	
A-7074-352-A VF-141 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)			
A-7074-193-A VF-141 BOARD, COMPLETE (TRV525/TRV620E/TRV720/TRV720E)			
***** (Ref. No.: 20, 000 Series)			
< CAPACITOR >			
C4501	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C4503	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4504	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4507	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C4508	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C4509	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C4510	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4511	1-164-739-11	CERAMIC CHIP 560PF 5% 50V	
C4512	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4513	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4514	1-107-687-11	TANTAL. CHIP 3.3uF 20% 20V	
C4515	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
C4516	1-162-928-11	CERAMIC CHIP 120PF 5% 50V	
C4517	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4518	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C4519	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C4520	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C4521	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C4523	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V	
C4524	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C4526	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C4527	1-107-725-11	CERAMIC CHIP 0.1uF 10% 16V	
< CONNECTOR >			
CN4501	1-764-526-11	CONNECTOR, FFC/FPC 18P	
CN4502	1-750-630-11	CONNECTOR, FFC/FPC 16P	
< DIODE >			
D4502	8-713-102-80	DIODE 1T369-01-T8A	
D4503	8-719-077-74	DIODE MA2S784008S0	
D4504	8-719-077-74	DIODE MA2S784008S0	
< FERRITE BEAD >			
FB4502	1-500-329-21	INDUCTOR CHIP 0uH	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
FB4505	1-500-329-21	INDUCTOR CHIP 0uH < IC >		206	1-960-225-11	HARNESS (DP-83) (TRV420E/TRV520/ TRV520E/TRV520P/TRV525/TRV620E)	
IC4501	8-759-591-95	IC RB5P0040M1 (TRV525/TRV620E/TRV720/TRV720E)		210	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)	
IC4501	8-759-660-93	IC RB5P004AM1 (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)		212	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)	
IC4502	8-752-400-96	IC CXD3501R-T4 < COIL >		257	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000) (TRV720/TRV720E)	
L4501	1-469-525-91	INDUCTOR 10uH		262	1-960-227-11	HARNESS (DP-87) (TRV720/TRV720E)	
L4504	1-412-949-21	INDUCTOR 6.8uH < TRANSISTOR >		304	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000) (TRV720/TRV720E)	
Q4504	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO < RESISTOR >		306	1-960-225-11	HARNESS (DP-83) (TRV720/TRV720E)	
R4505	1-216-853-11	METAL CHIP 470K 5% 1/16W		310	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE) (TRV720/TRV720E)	
R4507	1-218-895-11	METAL CHIP 100K 0.5% 1/16W		312	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000) (TRV720/TRV720E)	
R4508	1-216-845-11	METAL CHIP 100K 5% 1/16W		359	1-792-454-11	CABLE, FLEXIBLE FLAT (FFC-289) (TRV320/ TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
R4513	1-216-835-11	METAL CHIP 15K 5% 1/16W		401	1-676-299-11	FP-151 FLEXIBLE BOARD (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/ TRV525/TRV620E/TRV720/TRV720E)	
R4515	1-216-826-11	METAL CHIP 2.7K 5% 1/16W		456	1-418-800-11	SWITCH BLOCK, CONTROL (SS-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/ TRV720/TRV720E)	
R4516	1-216-841-11	METAL CHIP 47K 5% 1/16W		456	1-418-800-31	SWITCH BLOCK, CONTROL (SS-10000) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
R4517	1-216-843-11	METAL CHIP 68K 5% 1/16W		465	1-676-823-21	FP-162 FLEXIBLE BOARD	
R4518	1-216-837-11	METAL CHIP 22K 5% 1/16W		466	1-500-226-31	BEAD, FERRITE	
R4520	1-216-843-11	METAL CHIP 68K 5% 1/16W		469	1-960-596-11	HARNESS (HT-054)	
R4521	1-216-857-11	METAL CHIP 1M 5% 1/16W		501	1-793-996-11	CONNECTOR, EXTERNAL	
R4522	1-216-845-11	METAL CHIP 100K 5% 1/16W		507	1-676-822-11	FP-161 FLEXIBLE BOARD	
R4524	1-216-844-11	METAL CHIP 82K 5% 1/16W		509	1-758-155-21	FILTER BLOCK, OPTICAL (TRV320E/TRV420E/ TRV520E/TRV620E/TRV720E)	
R4525	1-216-838-11	METAL CHIP 27K 5% 1/16W		509	1-758-216-21	FILTER BLOCK, OPTICAL (TRV320/TRV320P/ TRV520/TRV520P/TRV525/TRV720)	
R4526	1-216-809-11	METAL CHIP 100 5% 1/16W		511	8-848-736-01	DEVICE, LENS LSV-680A	
R4527	1-216-809-11	METAL CHIP 100 5% 1/16W		512	1-758-445-11	IRIS IR-680 (including FLEXIBLE BOARD)	
R4528	1-216-809-11	METAL CHIP 100 5% 1/16W		551	1-676-819-11	FP-157 FLEXIBLE BOARD	
R4529	1-216-833-91	RES-CHIP 10K 5% 1/16W		555	1-676-821-11	FP-160 FLEXIBLE BOARD	
R4530	1-216-845-11	METAL CHIP 100K 5% 1/16W		556	1-500-226-31	BEAD, FERRITE	
R4534	1-216-864-11	METAL CHIP 0 5% 1/16W		558	1-676-820-11	FP-159 FLEXIBLE BOARD	
R4542	1-216-864-11	METAL CHIP 0 5% 1/16W		565	1-418-799-11	SWITCH BLOCK, CONTROL (FK-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/ TRV720/TRV720E)	
R4543	1-216-864-11	METAL CHIP 0 5% 1/16W		565	1-418-799-21	SWITCH BLOCK, CONTROL (FK-10000) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
R4544	1-216-853-11	METAL CHIP 470K 5% 1/16W		760	1-658-213-11	FP-355 FLEXIBLE BOARD	
MISCELLANEOUS *****				762	1-657-786-13	FP-221 FLEXIBLE BOARD	
10	1-676-818-31	FP-156 FLEXIBLE BOARD		764	1-658-214-11	FP-356 FLEXIBLE BOARD	
11	1-790-334-11	CABLE, FLEXIBLE FLAT (FFC-257S)		803	1-657-785-11	FP-248 FLEXIBLE BOARD	
59	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000) (TRV320/TRV320E/TRV320P)		817	1-657-784-11	FP-220 FLEXIBLE BOARD	
104	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000) (TRV320/TRV320E/TRV320P)		BT901	1-694-384-11	TERMINAL BOARD, BATTERY	
106	1-960-225-11	HARNESS (DP-83) (TRV320/TRV320E/TRV320P)		D001	8-719-988-42	DIODE GL453	
110	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE) (TRV320/TRV320E/TRV320P)					
157	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)					
204	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)					

(Note) Be sure to read "Precuations for Replcement of
CCD Imager" on page 4-8, 4-10 when changing
the CCD imager

Ref. No.	Part No.	Description	Remark
IC101	A-7030-821-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320/TRV320P/TRV520/TRV520P/ TRV525/TRV720) (Note)	
IC151	A-7031-072-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E) (Note)	
LCD901	1-803-852-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 61K)	
LCD901	1-803-853-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 123K)	
LCD901	1-803-854-21	INDICATOR MODULE, LIQUID CRYSTAL (3 LCD TYPE S)	
LCD901	1-803-855-21	INDICATOR MODULE, LIQUID CRYSTAL (3.5 LCD TYPE S)	
LCD901	1-803-859-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE C 61K)	
LCD901	1-803-861-21	INDICATOR MODULE, LIQUID CRYSTAL (3.5 LCD TYPE C)	
LCD901	1-803-863-21	INDICATOR MODULE, LIQUID CRYSTAL (4 LCD TYPE C)	
LCD901	1-803-893-21	INDICATOR MODULE, LIQUID CRYSTAL (4 LCD TYPE S)	
LCD903	8-753-026-74	LCX032AK-1 (TRV525/TRV620E/TRV720/TRV720E)	
LCD903	8-753-026-76	LCX032AL-5 (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
△LED901	1-517-866-11	LIGHT, BACK	
M901	A-7048-938-A	DRUM BLOCK ASSY (DKH-02A-R)	
M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
M905	1-763-472-11	MOTOR, STEPPING (F680) (FOCUS)	
M906	1-763-471-11	MOTOR, STEPPING (Z680) (ZOOM)	
MIC5802	1-542-312-11	MICROPHONE (L)	
MIC5803	1-542-312-11	MICROPHONE (R)	
△ND901	1-517-751-11	TUBE, FLUORESCENT, COLD CATHODE (2.5 LCD model) (TRV320/TRV320E: E, HK, AUS, CN/ TRV320P)	
△ND901	1-517-751-21	TUBE, FLUORESCENT, COLD CATHODE (2.5 LCD model) (TRV320E: AEP, UK, EE, NE, RU)	
△ND901	1-517-852-21	TUBE, FLUORESCENT, COLD CATHODE (4 LCD model) (TRV720/TRV720E)	
△ND901	1-517-855-21	TUBE, FLUORESCENT, COLD CATHODE (3.5 LCD model) (TRV520/TRV520E/TRV520P/ TRV620E)	
△ND901	1-517-856-21	TUBE, FLUORESCENT, COLD CATHODE (3 LCD model) (TRV420E/TRV525)	
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C LOCK)	
S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
S901	1-762-436-15	SWITCH (ENCODER), ROTARY	
SP003	1-529-590-11	SPEAKER (2.0cm)	
△V901	1-452-673-61	CRT ASSY (M01KXX90WB) (TRV320/ TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS *****	
△	1-475-141-61	COMMANDER, REMOTE (RMT-814)	
△	1-475-599-11	ADAPTOR, AC (EXCEPT TRV320: KR/ TRV520: KR/TRV720: KR)	
△	1-475-599-71	ADAPTOR, AC (TRV320: KR/TRV520: KR/TRV720: KR)	
△	1-569-007-11	ADAPTOR, CONVERSION 2P (TRV520: JE/TRV520E: JE)	
△	1-569-008-21	ADAPTOR, CONVERSION 2P (TRV320: E, HK/TRV320E: E, HK/TRV320P/ TRV520: E, HK/TRV520E: E, HK/TRV520P: E/ TRV720: E/TRV720E: E, HK)	
△	1-573-291-11	ADAPTOR, CONVERSION 21P (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP/TRV620E/ TRV720E: AEP)	
△	1-696-819-11	CORD, POWER (TRV320E: AUS/TRV520E: AUS)	
	1-765-080-11	CORD, CONNECTION (AV CONNECTING CABLE 1.5m)	
△	1-769-608-11	CORD, POWER (TRV320: E/TRV320E: AEP, EE, NE, RU, E/TRV320P/TRV420E: AEP/TRV520: E/ TRV520E: AEP, E/TRV520P: E/TRV620E: AEP/ TRV720: E/TRV720E: AEP, E)	
△	1-776-985-11	CORD, POWER (TRV320: KR/TRV520: KR/TRV720: KR)	
△	1-782-476-11	CORD, POWER (TRV320E: CN/TRV420E: CN/ TRV520E: CN/TRV720E: CN)	
△	1-783-374-11	CORD, POWER (TRV320: HK/TRV320E: UK, HK/TRV520: HK/ TRV520E: HK/TRV620E: UK/TRV720E: HK)	
△	1-783-952-11	CORD, POWER (TRV520P: AR)	
△	1-790-073-11	CORD, POWER 2P (TRV520: JE/TRV520E: JE)	
△	1-790-107-22	CORD, POWER (TRV320: US, CND/TRV520: US/TRV525/TRV720: US, CND)	
	1-792-451-11	CABLE, RS 232C	
	3-058-871-11	MANUAL, INSTRUCTION (ENGLISH) (TRV320: US, CND)	
	3-058-871-21	MANUAL, INSTRUCTION (FRENCH) (TRV320: CND)	
	3-058-871-31	MANUAL, INSTRUCTION (ENGLISH) (TRV320: E, HK/TRV320P)	
	3-058-871-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV320: E/TRV320P)	
	3-058-871-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV320: E, HK)	
	3-058-871-61	MANUAL, INSTRUCTION (ARABIC) (TRV320: E)	
	3-058-871-71	MANUAL, INSTRUCTION (KOREAN) (TRV320: KR)	
	3-058-872-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV320E: AEP, UK)	
	3-058-872-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV320E: AEP)	
	3-058-872-31	MANUAL, INSTRUCTION (ITALIAN, DUTCH) (TRV320E: AEP, EE, NE, RU)	
	3-058-872-41	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV320E: EE, NE, RU)	
	3-058-872-51	MANUAL, INSTRUCTION (POLISH, SWEDISH) (TRV320E: AEP)	
	3-058-873-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV320E: E, HK, AUS, CN)	

(Note) Be sure to read "Precautions for Replacement of CCD Imager" on page 4-8, 4-10 when changing the CCD imager

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

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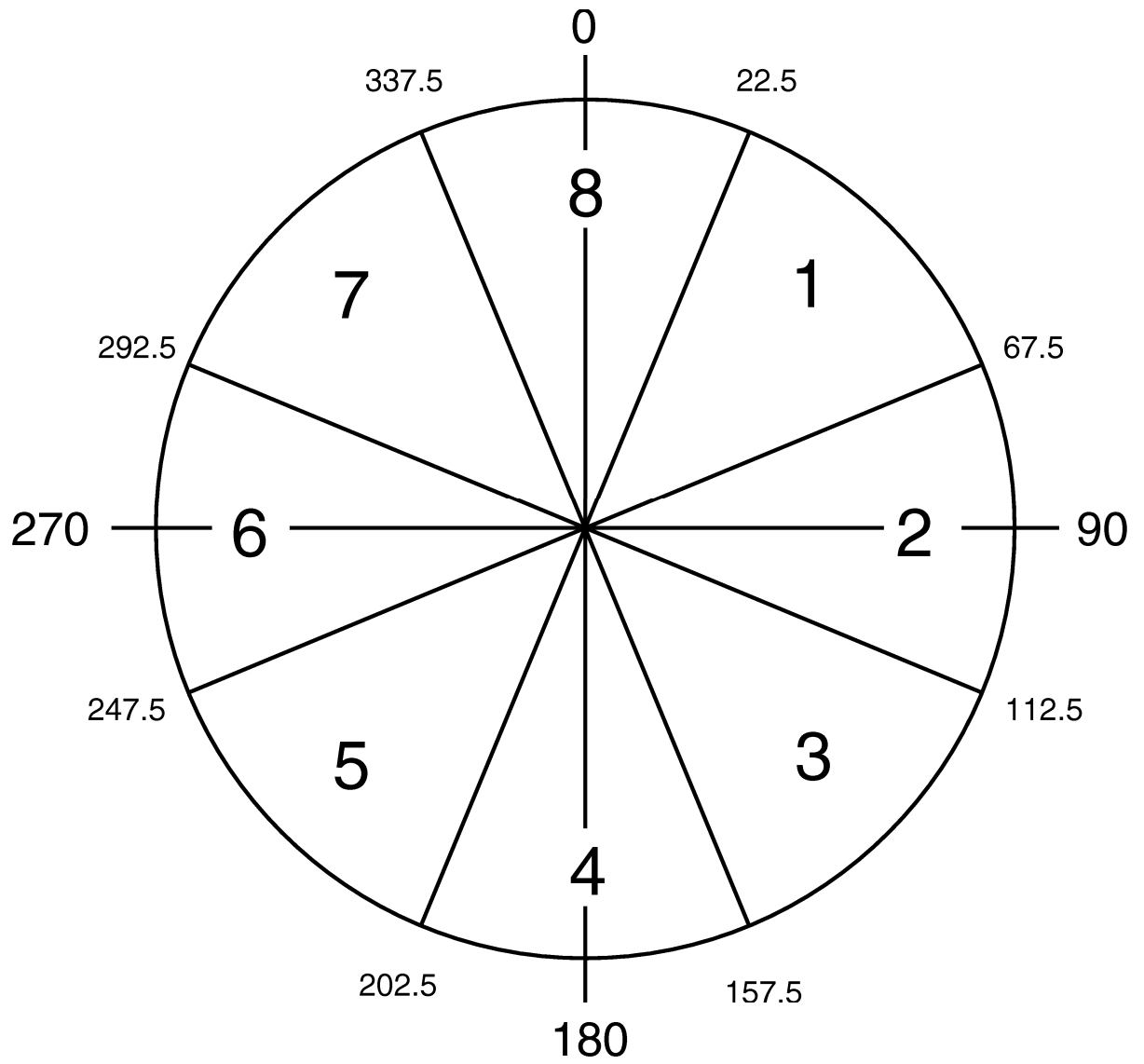
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	3-058-873-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV320E: E)			3-059-565-41	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV720E: AEP)	
	3-058-873-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (TRV320E: E)			3-059-566-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV720E: E, HK, CN)	
	3-058-873-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV320E: HK)			3-059-566-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV720E: E)	
	3-058-873-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV320E: E, CN)			3-059-566-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (TRV720E: E)	
	3-059-561-11	MANUAL, INSTRUCTION (ENGLISH) (TRV520: US/TRV525)			3-059-566-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV720E: HK)	
	3-059-561-21	MANUAL, INSTRUCTION (FRENCH) (TRV525: CND)			3-059-566-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV720E: E, CN)	
	3-059-561-31	MANUAL, INSTRUCTION (ENGLISH) (TRV520: E, HK, JE/TRV520P: E)			3-060-457-11	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ENGLISH) (TRV320: US, CND, E, HK/ TRV320P/TRV520: US, E, HK, JE/ TRV520P: E/TRV525/TRV720: US, CND, E)	
	3-059-561-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV520: E, JE/TRV520P)			3-060-457-21	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (FRENCH) (TRV320: CND/TRV525: CND/TRV720: CND)	
	3-059-561-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV520: E, HK)			3-060-457-31	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (TRADITIONAL CHINESE) (TRV320: E, HK/ TRV320E: HK/TRV520: E, HK/TRV520E: HK/ TRV720: E/TRV720E: HK)	
	3-059-561-61	MANUAL, INSTRUCTION (ARABIC) (TRV520: E)			3-060-457-41	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (KOREAN) (TRV320: KR/TRV520: KR, JE/ TRV720: KR)	
	3-059-561-71	MANUAL, INSTRUCTION (KOREAN) (TRV520: KR, JE)			3-060-458-11	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ENGLISH, RUSSIAN) (TRV320E: AEP, UK, E, HK, AUS, CN/TRV420E/ TRV520E/TRV620E/TRV720E)	
	3-059-562-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV420E: AEP/TRV520E: AEP/TRV620E)			3-060-458-21	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (FRENCH, GERMAN) (TRV320E: EE, NE, RU, E/TRV420E: AEP/ TRV520E: AEP, E, JE/TRV620E: AEP/ TRV720E: AEP, E)	
	3-059-562-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV420E: AEP/ TRV520E: AEP/TRV620E: AEP)			3-060-458-31	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ITALIAN, DUTCH) (TRV320E: AEP, EE, NE, RU/TRV420E: AEP/ TRV520E: AEP/TRV620E: AEP/ TRV720E: AEP)	
	3-059-562-31	MANUAL, INSTRUCTION (ITALIAN, DUTCH) (TRV420E: AEP/TRV520E: AEP/TRV620E: AEP)			3-060-458-41	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (SPANISH, PORTUGUESE) (TRV320: E/ TRV320E: AEP/TRV320P/TRV420E: AEP/TRV520: E, JE/TRV520E: AEP/TRV520P/ TRV620E: AEP/TRV720: E/TRV720E: AEP)	
	3-059-562-41	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV420E: AEP/TRV520E: AEP/TRV620E: AEP)			3-060-458-51	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (POLISH, SWEDISH) (TRV320E: AEP)	
	3-059-563-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV420E: CN/TRV520E: E, HK, AUS, CN, JE)			3-060-458-61	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ARABIC, PERSIAN) (TRV320: E/TRV320E: E/TRV520: E/ TRV520E: E/TRV720: E/TRV720E: E)	
	3-059-563-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV520E: E, JE)			3-060-458-71	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (SIMPLIFIED CHINESE) (TRV320E: E, CN/TRV420E: CN/TRV520E: E, CN, JE/TRV720E: E, CN)	
	3-059-563-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (TRV520E: E)			3-060-476-01	DISK, SYSTEM (Picture Gear 4.1 Lite)	
	3-059-563-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV520E: HK)			3-742-854-01	LID, BATTERY (for RMT-814)	
	3-059-563-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV420E: CN/TRV520E: E, CN, JE)			3-987-015-01	BELT (S), SHOULDER	
	3-059-564-11	MANUAL, INSTRUCTION (ENGLISH) (TRV720: US, CND)			3-988-960-01	BAG (8500), CARRYING (TRV320P/TRV520P)	
	3-059-564-21	MANUAL, INSTRUCTION (FRENCH) (TRV720: CND)					
	3-059-564-31	MANUAL, INSTRUCTION (ENGLISH) (TRV720: E)					
	3-059-564-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV720: E)					
	3-059-564-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV720: E)					
	3-059-564-61	MANUAL, INSTRUCTION (ARABIC) (TRV720: E)					
	3-059-564-71	MANUAL, INSTRUCTION (KOREAN) (TRV720: KR)					
	3-059-565-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV720E: AEP)					
	3-059-565-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV720E: AEP)					
	3-059-565-31	MANUAL, INSTRUCTION (ITALIAN, DUTCH) (TRV720E: AEP)					

The components identified by
mark Δ or dotted line with
mark Δ are critical for safety.
Replace only with part num-
ber specified.

Les composants identifiés par une
marque Δ sont critiques pour la
sécurité.
Ne les remplacer que par une pièce
portant le numéro spécifié.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
△	A-7094-140-A	BATTERY PACK (NP-F330) (TRV320: US, CND/TRV520: US/TRV525/ RV720: US, CND)	
△	A-7094-141-A	BATTERY PACK (NP-F330) (TRV320: E, HK, KR/TRV320E/TRV320P/ TRV520: E, HK, KR, JE/TRV520E/TRV520P/ TRV620E/TRV720: E, KR/TRV720E)	

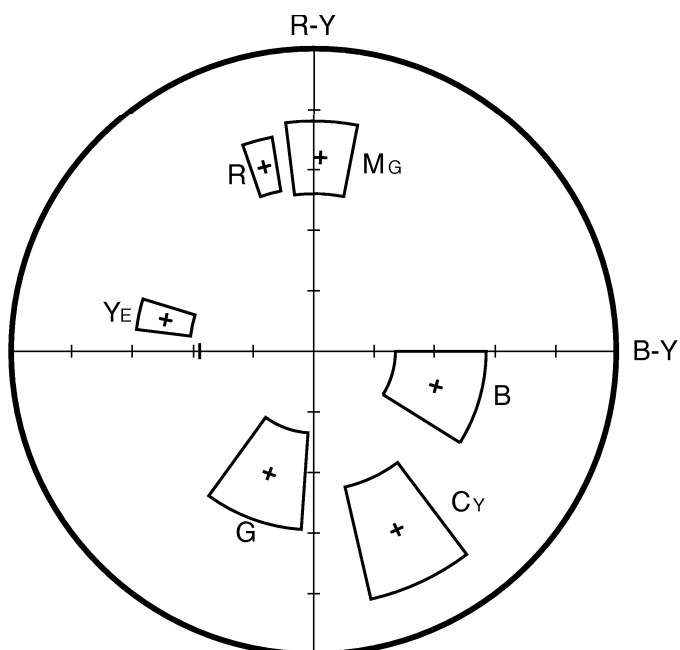
FOR CAMERA OPTICAL AXIS ADJUSTMENT



FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use.

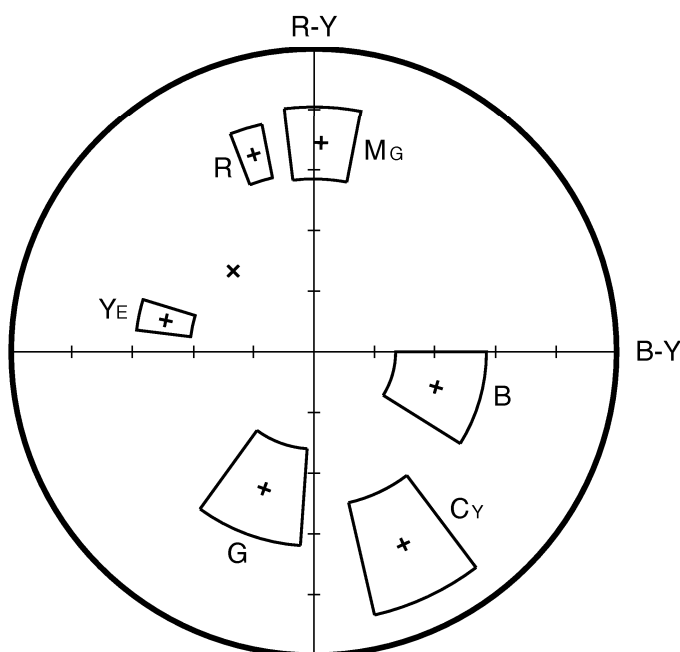
For NTSC 720H model



DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720



For PAL 960H model

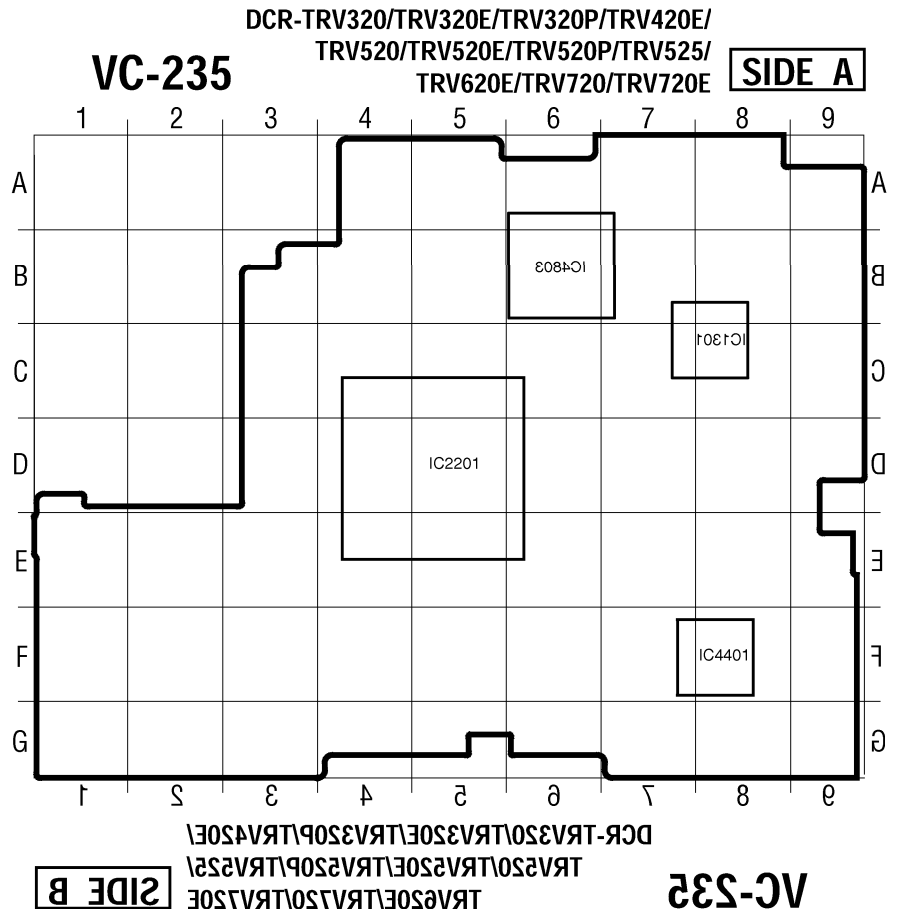


DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E



< PARTS REFERENCE SHEET >

You can find the parts position of mount locations applying to VC-235 board of a set.

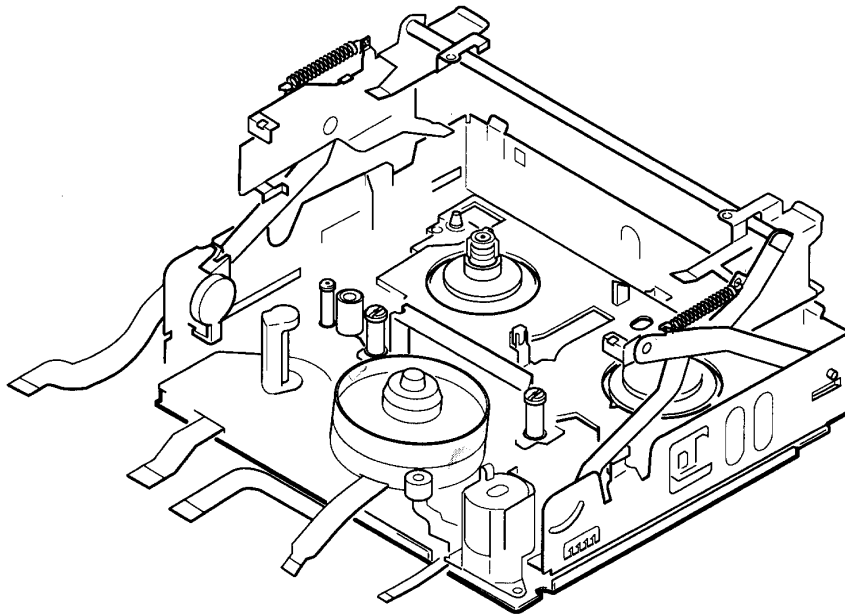


8mm Video MECHANICAL ADJUSTMENT MANUAL VII

B MECHANISM

Video8

Use this mechanical adjustment manual VII together with the service manual of the respective models.



8 MECHANISM DECK
SONY®

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For the mode selector operation, schematic diagram
and parts list, refer to the Supplement-1 Manual.

1. PREPARATION FOR CHECKING, ADJUSTING AND REPLACING THE MECHANISM

For the disassembly procedures of the cabinet and printed wiring boards, please refer to the "DISASSEMBLY" section of the service manual of the respective models.

To re-assemble the mechanical parts which are disassembled in the following sections, perform the disassembly steps in reverse, unless otherwise specified.

The mechanisms are adjusted while set in the USE mode of operation. (Refer to the "Mode Selector Operation Procedure of the Supplement-1 Manual for how to enter the USE mode.)

1-1. Cassette Compartment Block Assy

1. Disassembly Procedure (Refer to Fig. 1.)

- 1) Set the mechanism to USE mode.
- 2) Confirm that the Cassette Compartment Block Assy is opened. If it is not opened, open it referring to Fig. a.
- 3) Remove the claws (A) and (B) of the Damper Assy ① from the chassis.
- 4) Remove the washer ② from the shaft of the Cassette Compartment near the Drum, next to the loading motor. Remove the shaft of the arm from the slot.

- 5) Remove the shaft of the arm from the slot (C) of the Cassette Compartment near the Drum, next to the capstan motor. (Refer to Fig. b)
- 6) Lift up the Cassette Compartment at the Drum side in the direction of the arrow (D), and remove the arm shaft of the Cassette Compartment from the LS Chassis (4) near the Reel Tables. Remove the Cassette Compartment Assy (3) in the direction of the arrow (E).

2. Precautions During Re-Assembling

- 1) After attaching the Tension Spring, confirm that the straight portion at the end of the curved hook of the spring is positioned inside the mechanism. (Refer to Fig. c)
- 2) Confirm that the claw in the bottom of the shaft near the Reel Table of the Cassette Compartment is hooked to the LS Chassis.
- 3) Confirm that the claw of the Damper Assy is hooked to the LS Chassis. (Refer to Fig. b)

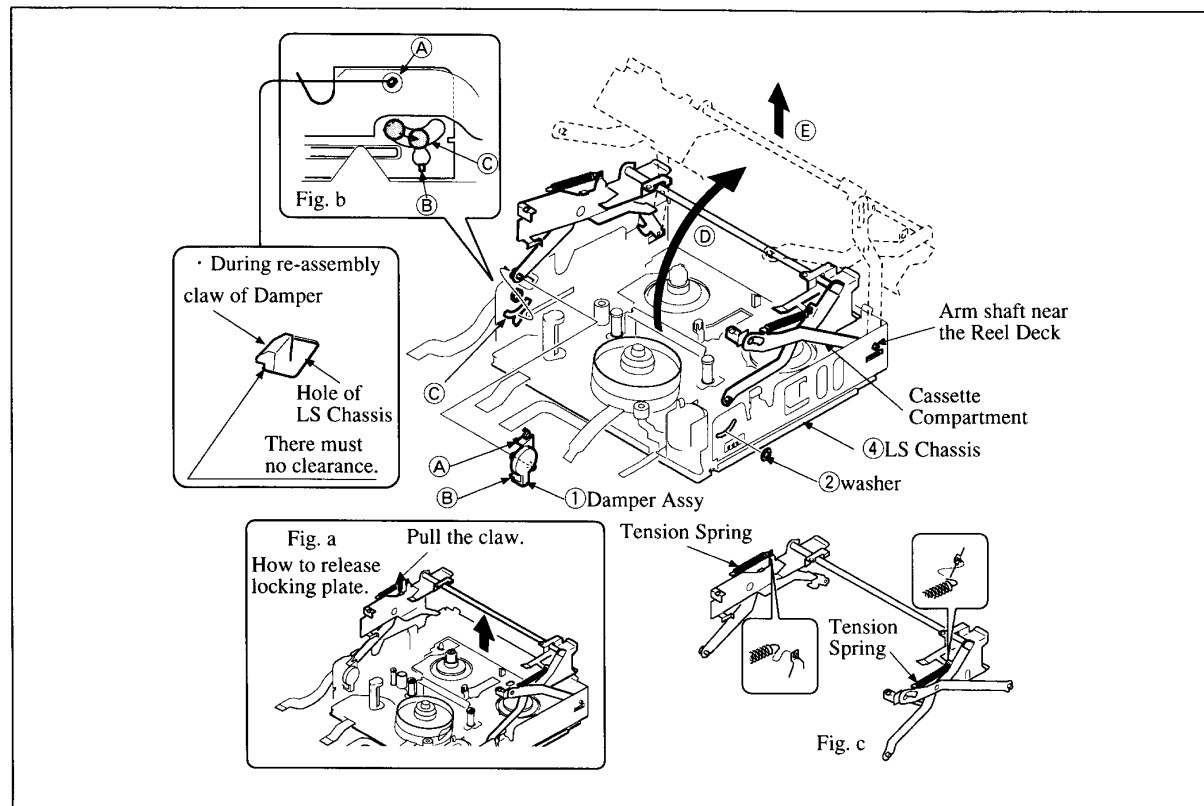


Fig. 1

1-2. How to Operate the Mechanism with the Cassette Compartment Block Assy Removed

1. How to load a cassette tape (Refer to Fig. 2):

- 1) While referring to section "DISASSEMBLY" of the respective service manual, turn the main power on with the cabinet and camera section removed. (It enables to operate the mechanical deck.)
- 2) Connect the adjustment remote commander (Ref. No. J-10) and establish the TEST mode.

Example of establishing the TEST mode: model CCD-TR420E/TR440E.

Select page: 6, address: 00, set data :01 and press the PAUSE button to release protection.

Select page: 7, address: 01, set data: 01 and press the PAUSE button.

After tape loading or other desired operations of mechanism are completed, be sure to perform the following:

Select page: F, address: 01, set data :00 and press the PAUSE button.

Select page: 6, address: 00, set data: 00 and press the PAUSE button.

- 3) Press the push-switch ① knob in the direction of the arrow which sets the machine into loading mode.

☆ PB, FF/REW and CUE/REV operations are possible.

2. How to establish RECORD mode:

- 1) Press pin of the push-switch ② (ON state) and keep the ON state by fixing with adhesive tape ③.
- 2) Turn the main power switch ON (select VTR or CAMERA position of in case of camera).
- 3) Set the RECORD switch to ON.

(When the TEST mode is selected, the rotation detection of the S and T reel tables is muted, and the top end sensor is disable which allow to run the tape.)

3. How to eject a cassette tape:

- 1) Press the EJECT switch to ON.

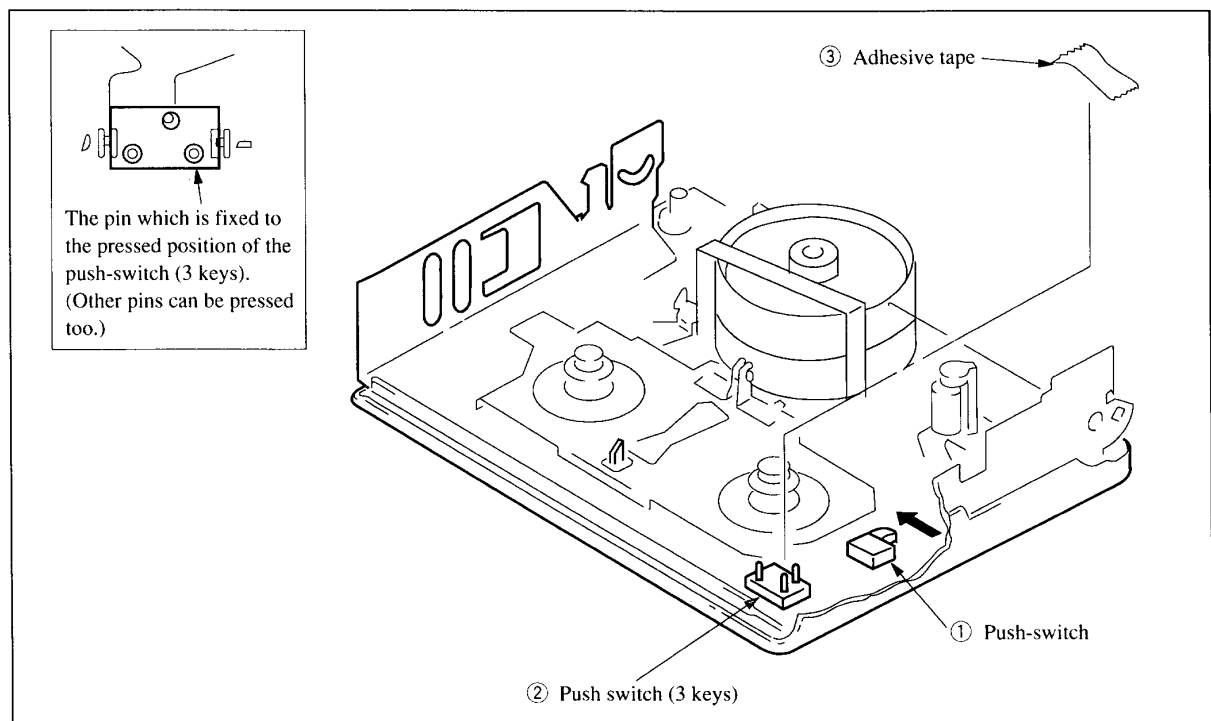


Fig. 2

2. PERIODIC CHECK AND MAINTENANCE ITEMS

- Perform the following periodic check and maintenance to ensure that the machine functions continue to operate in peak condition, and to protect the tape and mechanism deck. After completing repair work, perform the following maintenance items regardless of how long the user's machine has been used.

2-1. Rotary Drum Assy Cleaning

Press the cleaning piece (Ref. No. J-2) moistened with cleaning fluid (Ref. No. J-1) lightly on the Rotary Drum Assy. Gently turn the Rotary Drum Assy slowly by hand counter-clockwise to clean the rotary drum.

Caution: Never attempt to turn the head drum motor by turning the main power ON. Also, never turn the drum clockwise by hand. In addition, never move the cleaning piece vertically with respect to the head tips, since this will damage them. Never clean the head drum in any way other than as described above.

2-2. Tape Path Cleaning (Refer to Fig. 3.)

- 1) Set the mechanism to **USE** mode. Clean the tape path system (TG-1, TG-2, TG-3, TG-4, pinch roller, capstan shaft) and lower drum using a very thin cotton swab (Ref. No. J-3) moistened with cleaning fluid.

Caution: Take care that the very thin cotton swab (Ref. No. J-3) does not touch the oil or grease of the various link mechanisms.

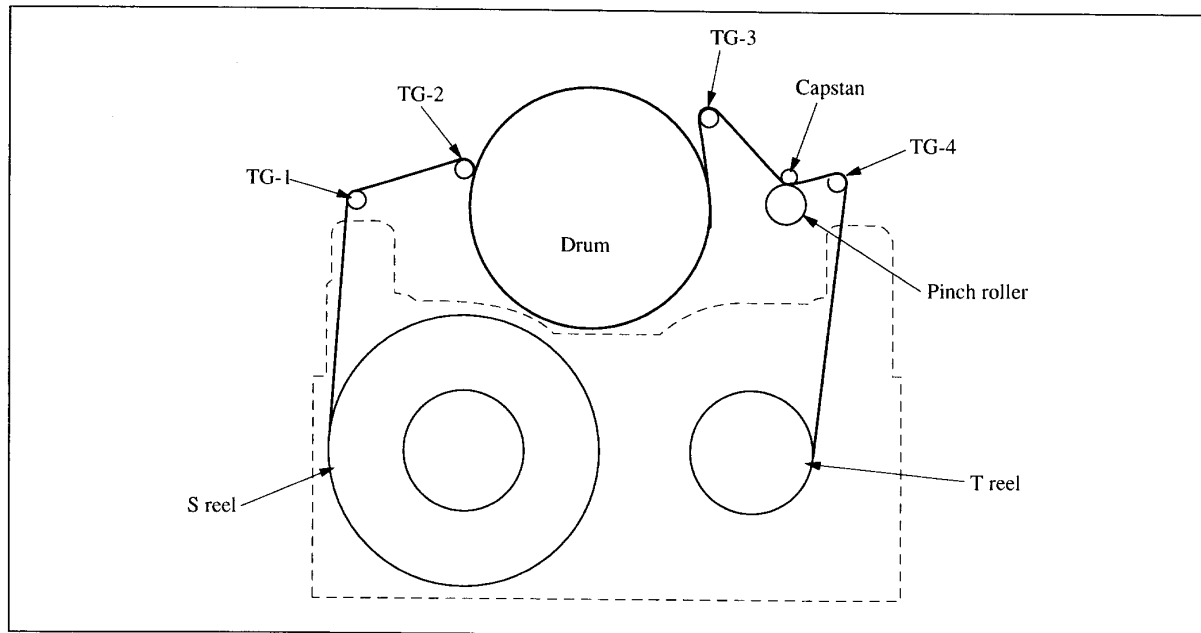


Fig. 3

2-3. Periodic Check Items

Maintenance and Inspection Points		Operating Hours										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
Drive System	Cleaning of tape running surface	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
	Cleaning and degaussing of Rotary Drum Assy	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
	Timing Belt	—	☆	—	☆	—	☆	—	☆	—	☆	3-965-546-01
	Capstan Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	Take great care not to let any oil contact the tape running surface.
	Change Gear Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	
	Relay Pulley Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	X-3945-401-1
Performance Check	Loading Motor	—	☆	—	☆	—	☆	—	☆	—	☆	
	Abnormal Sound	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Tape Hold-back Tension Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake System	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD } Torque Measurement RVS }	—	☆	—	☆	—	☆	—	☆	—	☆	

○Cleaning ◎Lubrication ☆Check

Note: When overhauling the machine, replace the parts while referring to the above table.

Note: Regarding oil

- Be sure to use the specified oil. (If the viscosity and other characteristics are different, various troubles may arise.)

Oil: Sony part No. 7-661-018-18

(Mitsubishi diamond oil hydro fluid NT-68)

- For the oil lubricated bearings, use oil free from dust or foreign materials. If the oil contains any dust or foreign material, the bearings will wear out quickly or burn out.
- One drop of oil is the amount of oil which forms at the tip of a stick of 2 mm diameter.

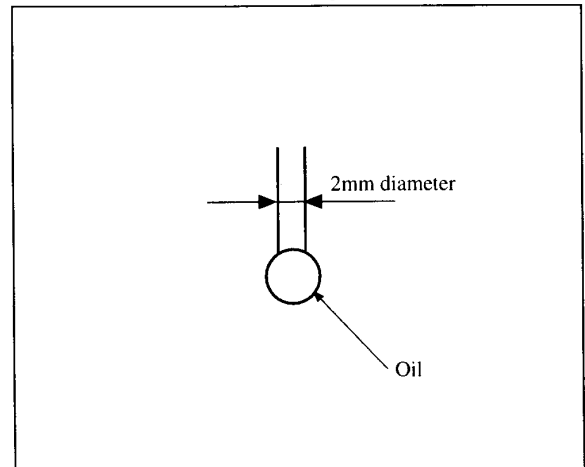



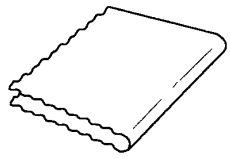
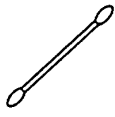
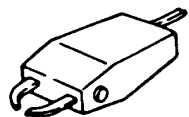
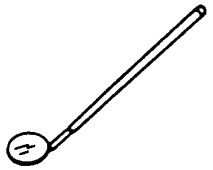
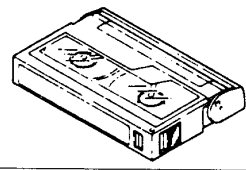
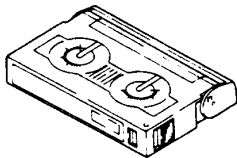
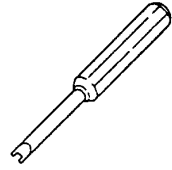
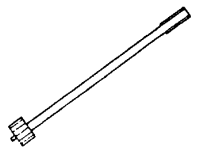
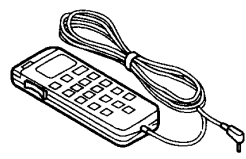
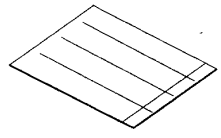
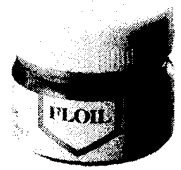

Fig. 4

2-4. Service Tool List

Ref. No.	Name	Parts Code	Tool Stamp	Applications
J-1	Cleaning fluid	Y-2031-001-0	—	
J-2	Cleaning piece	2-034-697-00	—	
J-3	Very thin cotton swab (made by Nippon Cotton Swab Inc. (P752D))		—	
J-4	Head demagnetizer	Commercially available	—	
J-5	Dental mirror Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-6	Alignment tape (NTSC : WR5-1NP) (PAL : WR5-1CP)	8-967-995-02 8-967-995-07	—	Tape path
J-7	FWD/RVS take-up torque cassette	J-6080-824A	GD-2086	
J-8	Screwdriver for tape path adjustment	J-6082-026-A	—	For tape guide adjustment
J-9	FWD/BACK tension adjustment screwdriver	J-6082-187-A	—	
J-10	Remote commander for adjustment	J-6082-053-B	—	Tape path (Setting PATH mode)
J-11	MD process table	J-6082-166-A	—	
J-12	FLOIL Grease SG-941	7-662-001-39	—	
J-13	FLOIL Grease SG-055G	7-651-000-09	—	

Other equipment

- Oscilloscope
- Analog circuit tester (input impedance 20 kΩ)

J-1 	J-2 	J-3 	J-4 
J-5 	J-6 	J-7 	J-8 
J-9 	J-10 	J-11 	J-12 
J-13 			

3. CHECKING, ADJUSTING AND REPLACING THE MECHANISM

3-1. HC Roller Block Assy (Refer to Fig. 5)

1. Disassembly Procedure

- 1) Remove the Torsion Spring ① from the cut-out ①A of the motor holder. Hook it to the claw ①B of the HC Arm.
- 2) Remove the HC Roller Block Assy in the direction shown by ①C.
- 3) Remove the stop washer ② and remove the HC Roller Block Assy ③.

2. Precautions During Re-Assembly

- 1) After attaching the HC Roller Block Assy, confirm that both ends of the torsion spring are hooked to ①A and ①D.
- 2) Align the block so that the cut-out ①E agrees with the rib ①F.

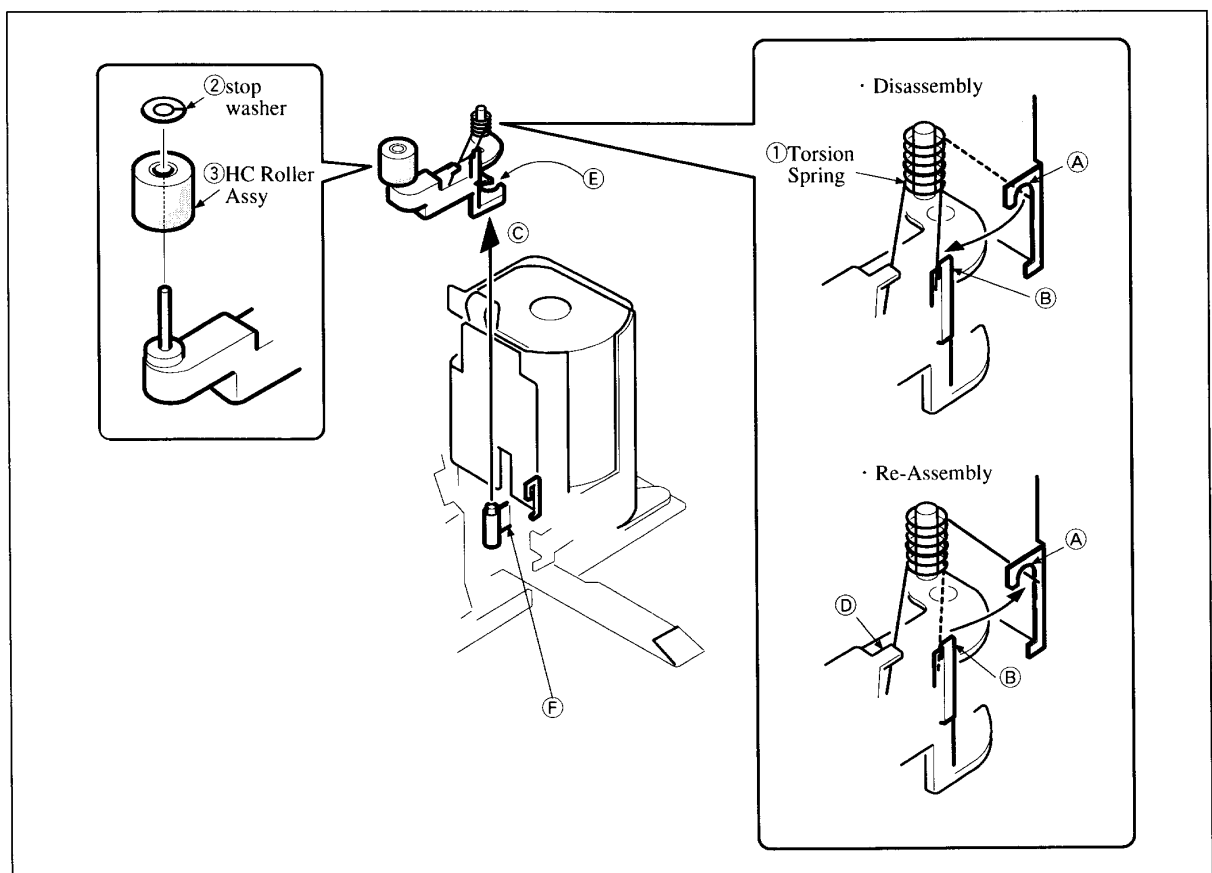


Fig. 5

3-2. Drum Assy (Refer to Fig. 6)

1. Disassembly Procedure

- 1) Set the mechanism to **USE** mode.
- 2) Remove the three screws (M 1.4) ① and remove the Drum Assy ②.

Caution: Be careful not to touch the outer circumference of the drum. (Hold the portions **A** and **B** of the drum assy.)

2. Precautions During Re-Assembly

- 1) Be careful not to touch the outer circumference of the drum. (Hold the portions **A** and **B** of the drum assy.)
- 2) When tightening the three screws (M 1.4), tighten them in the order **C**, then **D**, then **E**.
- 3) After attaching the Drum Assy, perform the steps in section "4. TAPE PATH ADJUSTMENT".

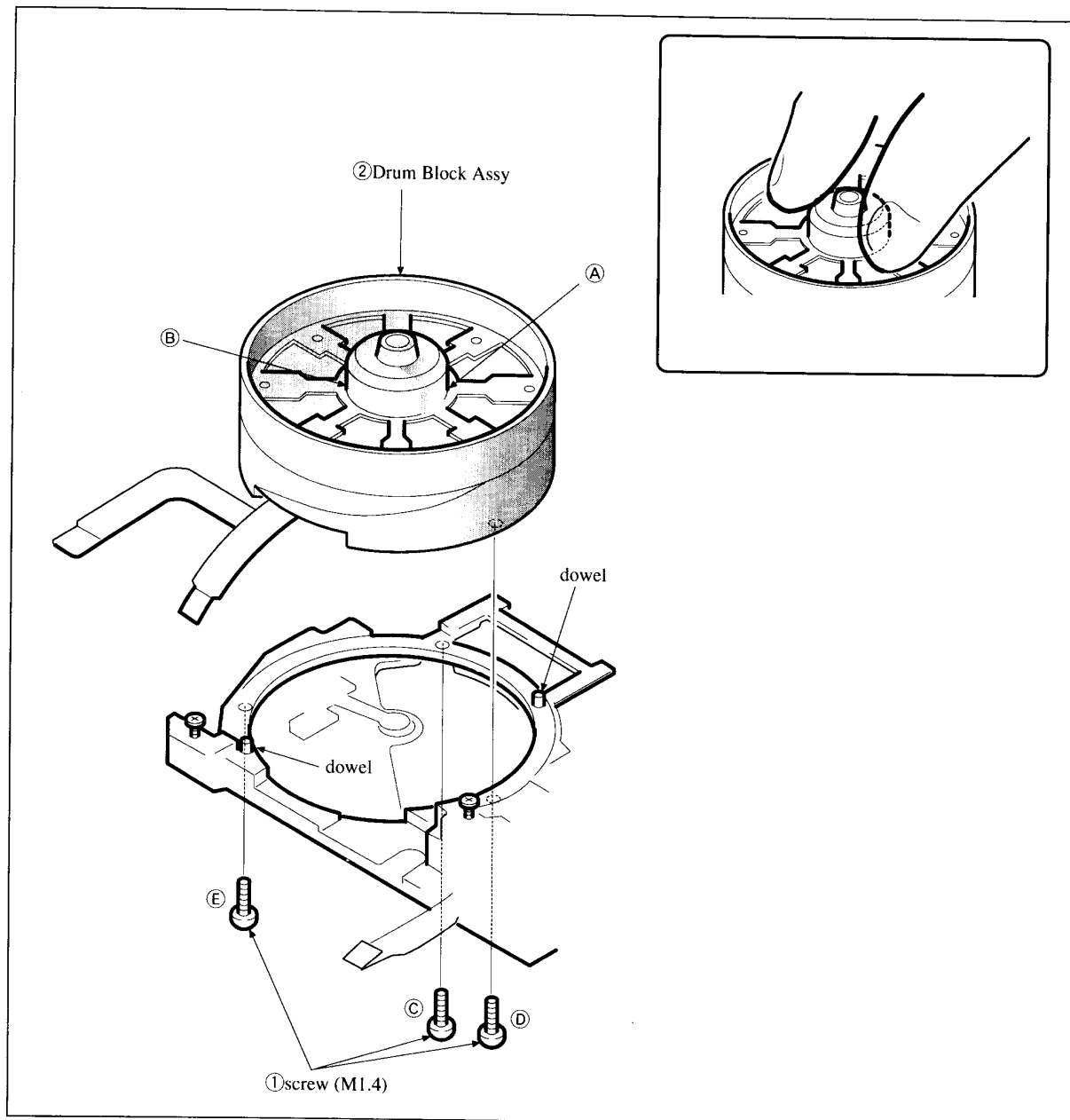


Fig. 6

3-3. Drum Base Block Assy, Shaft Ground (Refer to Fig. 7)

1. Disassembly Procedure

- 1) Remove the Drum Assy referring to section 3-2.
- 2) Remove the three screws (M 1.4×2.5) ① and remove the Drum Base Block Assy ②.
- 3) Remove the screw (M 1.7×1.4) ③ and remove the Shaft Ground ④.

2. Precautions During Re-Assembly

- 1) Do not touch the spring portion of the Shaft Ground ④.
- 2) When tightening the three screws (M 1.4×2.5), tighten them in the order of ①, then ②, then ③.
- 3) After re-assembly is completed, perform the steps in section "4. TAPE PATH ADJUSTMENT".

Caution 1: Do not hold the spring portion of the Shaft Ground ④.

Caution 2: The loading motor can be removed while the mechanism is in this state. However, do not move any other mechanical parts (especially gears and cams around the rotary switch) when removing the loading motor. (Refer to 3-11.)

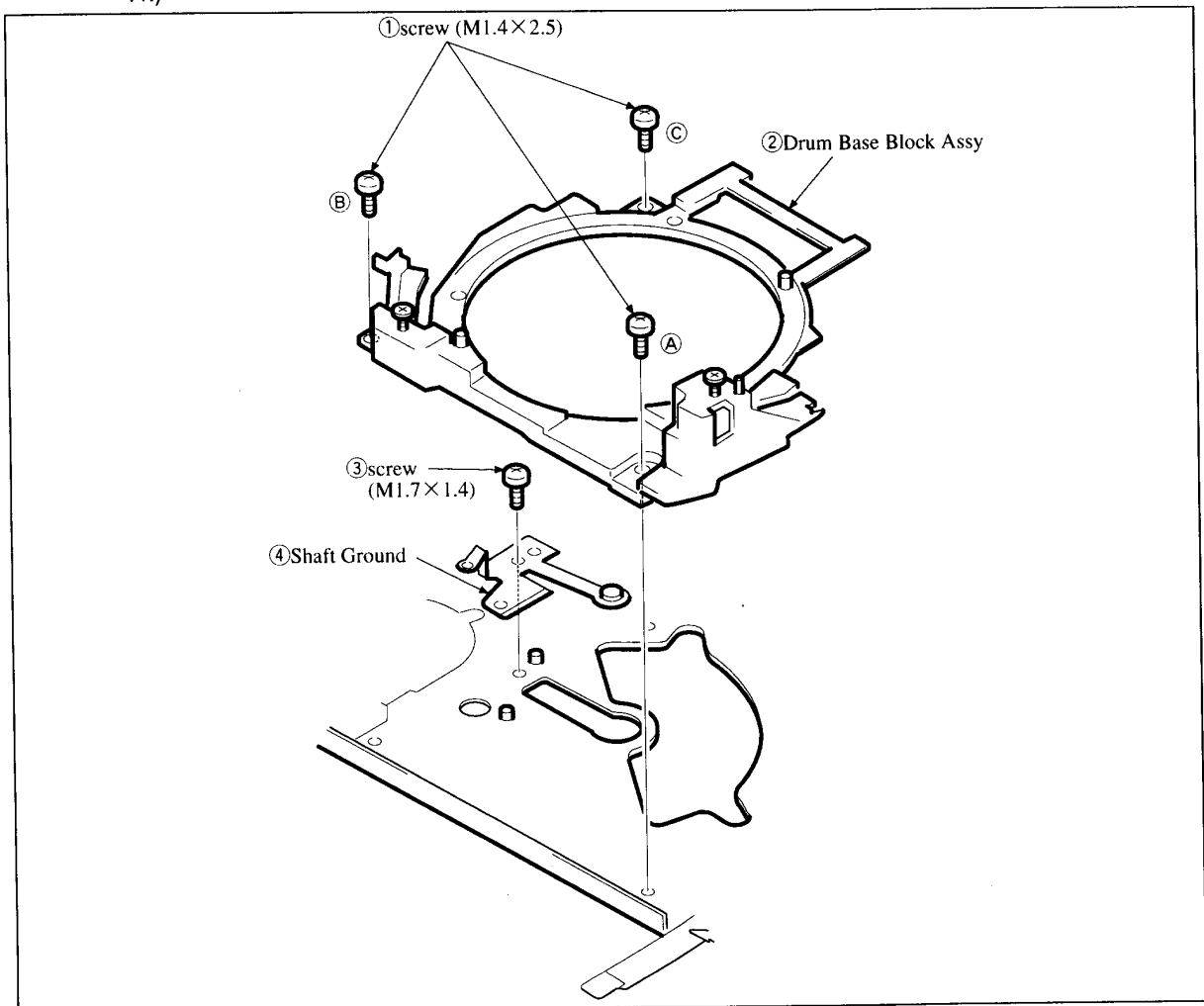


Fig. 7

3-4. Gooseneck Retainer, Gooseneck Gear Assy (Refer to Fig. 8)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the LED ① from the LED holder of the Gooseneck Retainer ③.
(Turn the flexible board 90° outside and remove it upward.)
- 3) Remove the three screws (M 1.4×2.5) ② and remove the Gooseneck Retainer ③.
- 4) Remove the stop washer ④ and remove the Gooseneck Gear Assy ⑤.

2. Precautions During Re-Assembly

- 1) When attaching the Gooseneck Retainer ③, take care that the Gooseneck Retainer ③ does not collide with the tension regulator band. (The tension regulator band must be located inside.)
- 2) Hook the T-side claw on the guide.

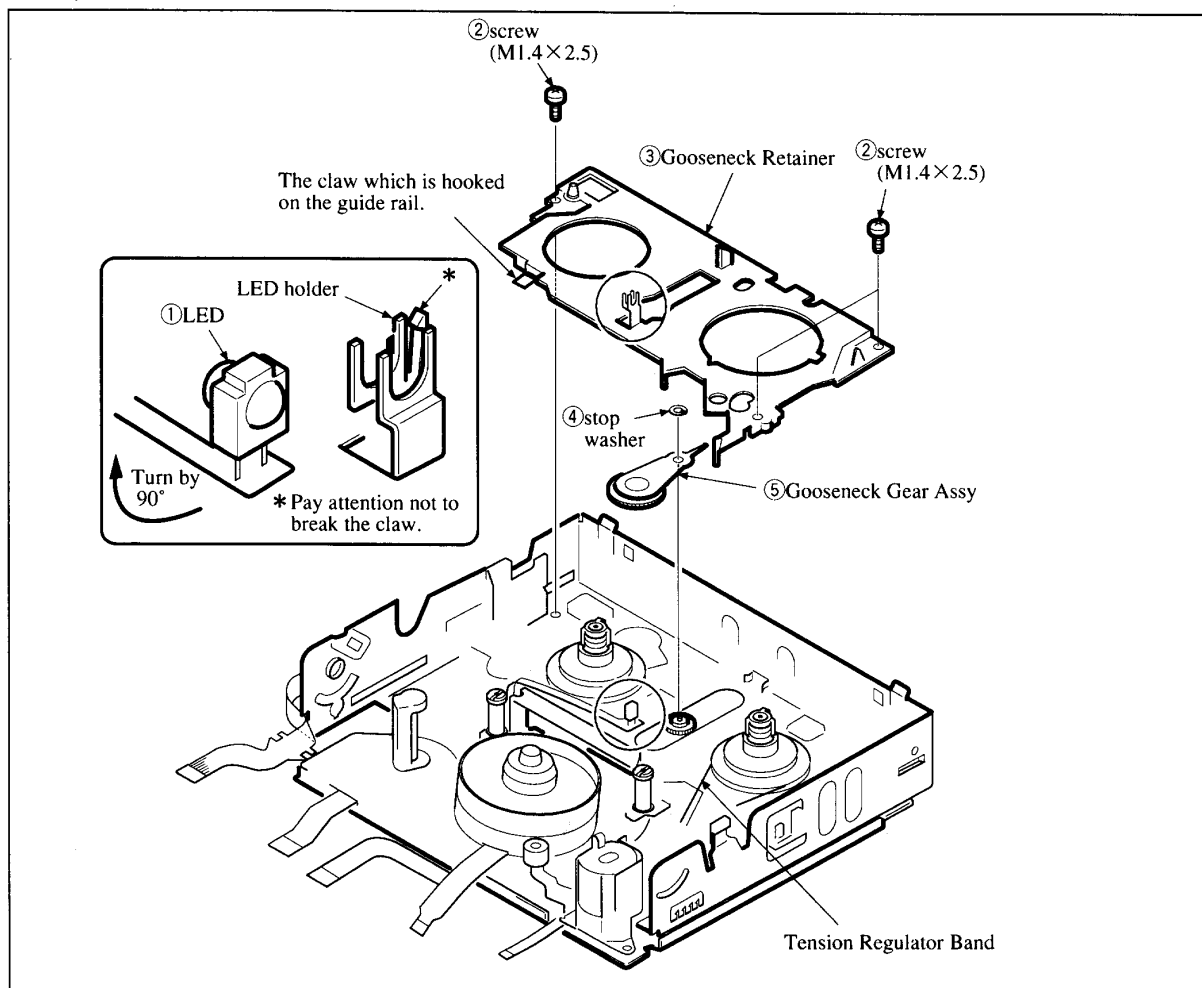


Fig. 8

3-5. LS Chassis Block Assy, Mechanical Chassis Block Assy (Refer to Fig. 9)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 3) Remove the FP-221 flexible board ① from the flexible board holder.
- 4) Remove the stop ring E1.5 ②.
- 5) Remove the two screws (M 1.4×2.5) ③ and remove the LS Chassis Block Assy ④ from the Mechanical Chassis Block ⑤ in the direction of the arrow A.

Note: The Tension Regulator Plate (2) can easily fall into the Mechanical Chassis Block Assy. Take care not to drop it.

2. Precautions During Re-Assembly

- 1) Before attaching the LS Chassis Block Assy, confirm that the respective phase-determining holes have been adjusted for correct phase. Also confirm that the specified locations of the Mechanical Chassis Block Assy and the LS Chassis Block Assy are coated with grease SG-055G (Ref. No. J-13). (Refer to Fig. a)
- 2) When attaching the LS Chassis Block Assy, insert the LS Cam Plate (on the LS chassis side) into the dowel (on the mechanical chassis side). Also insert the TG1 Cam Axis (on the LS chassis side) into the Tension Regulator Plate (2) (on the mechanical chassis side).
- 3) When attaching these block assemblies, attach them while pressing the TG-1 Arm Assy in the direction toward the TG-2 Guide. (Refer to Fig. b)
- 4) Pay attention that the TG-1 Arm is not floated.

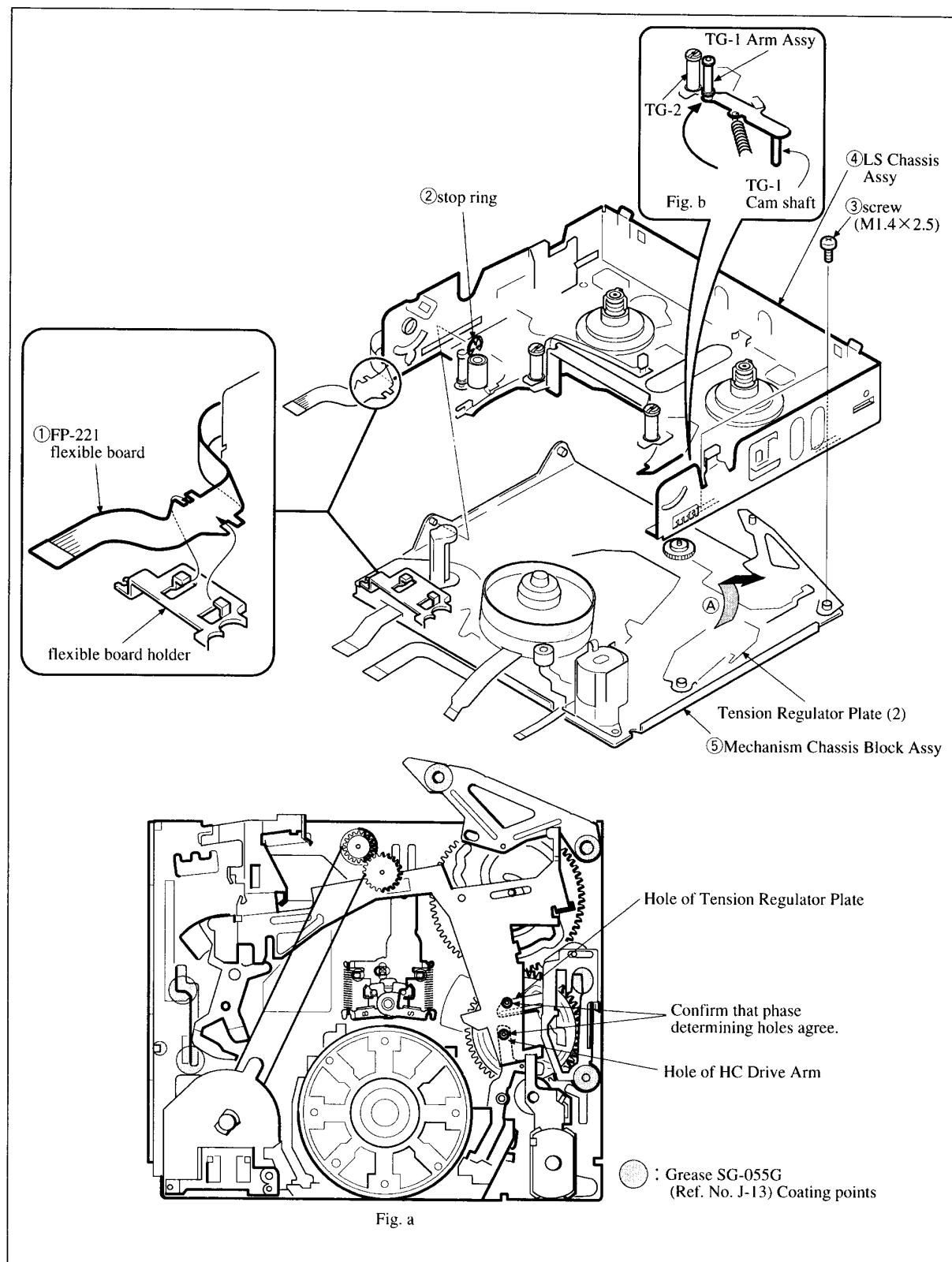


Fig. 9

• PARTS CONSTITUTING THE LS CHASSIS.

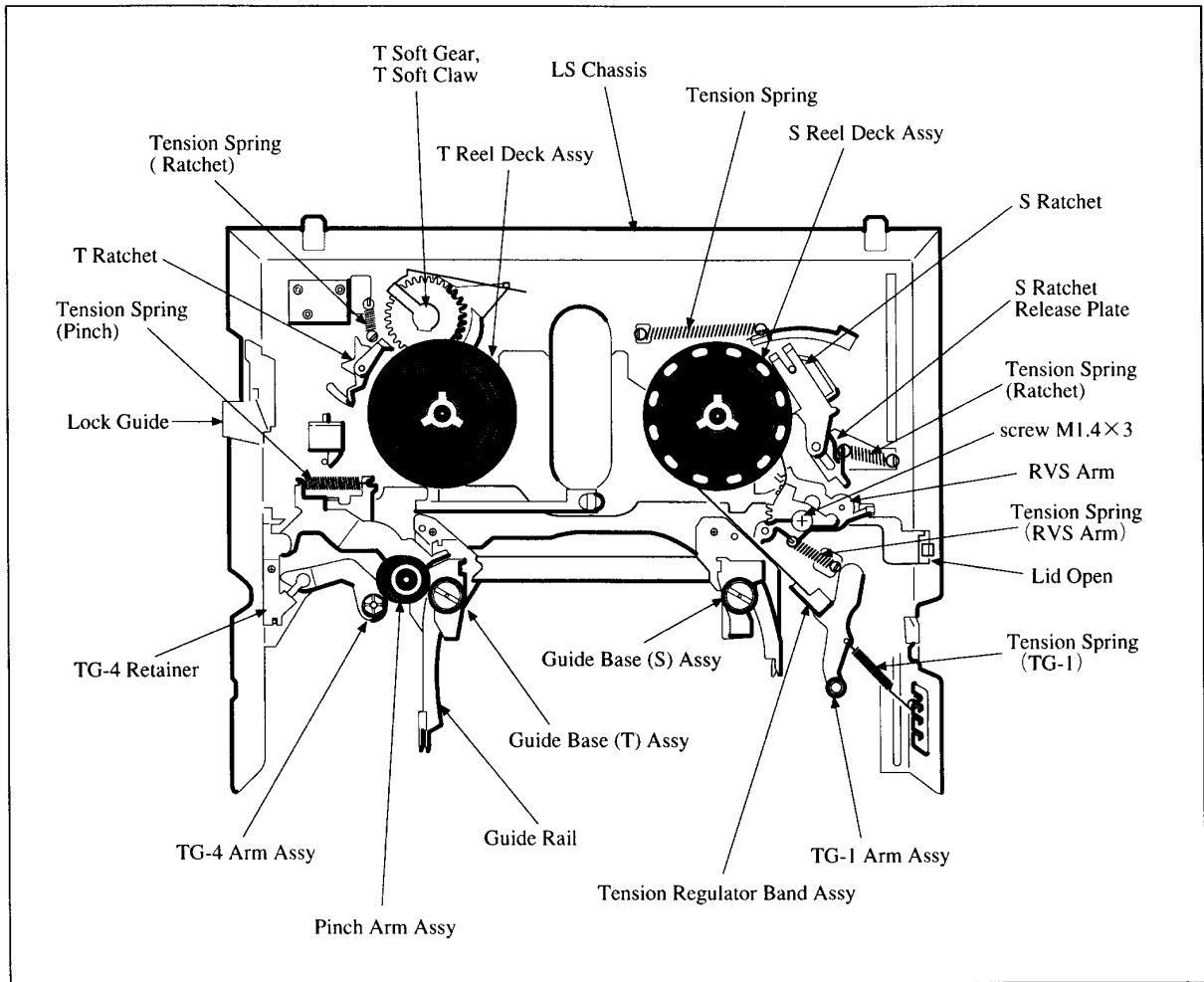


Fig. 10

3-6. T Reel Table Assy, T Ratchet, T Soft Gear Block Assy (Refer to Fig. 11)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 3) Remove the claw of the T Reel Deck Assy ① from the chassis and remove the T Reel Deck Assy from its shaft.
- 4) Remove the Tension Spring (Ratchet) ② from the LS Chassis and turn the T Ratchet ③ in the direction of the arrow ④ and remove it.
- 5) Turn the T Soft Gear Block Assy ④ in the direction of the arrow ⑤ and remove it.

2. Precautions During Re-Assembly

- 1) Confirm that the protrusions of both the T Soft Gear Block Assy and T Ratchet are securely locked to the LS Chassis.
- 2) Be careful not to deform the claw.

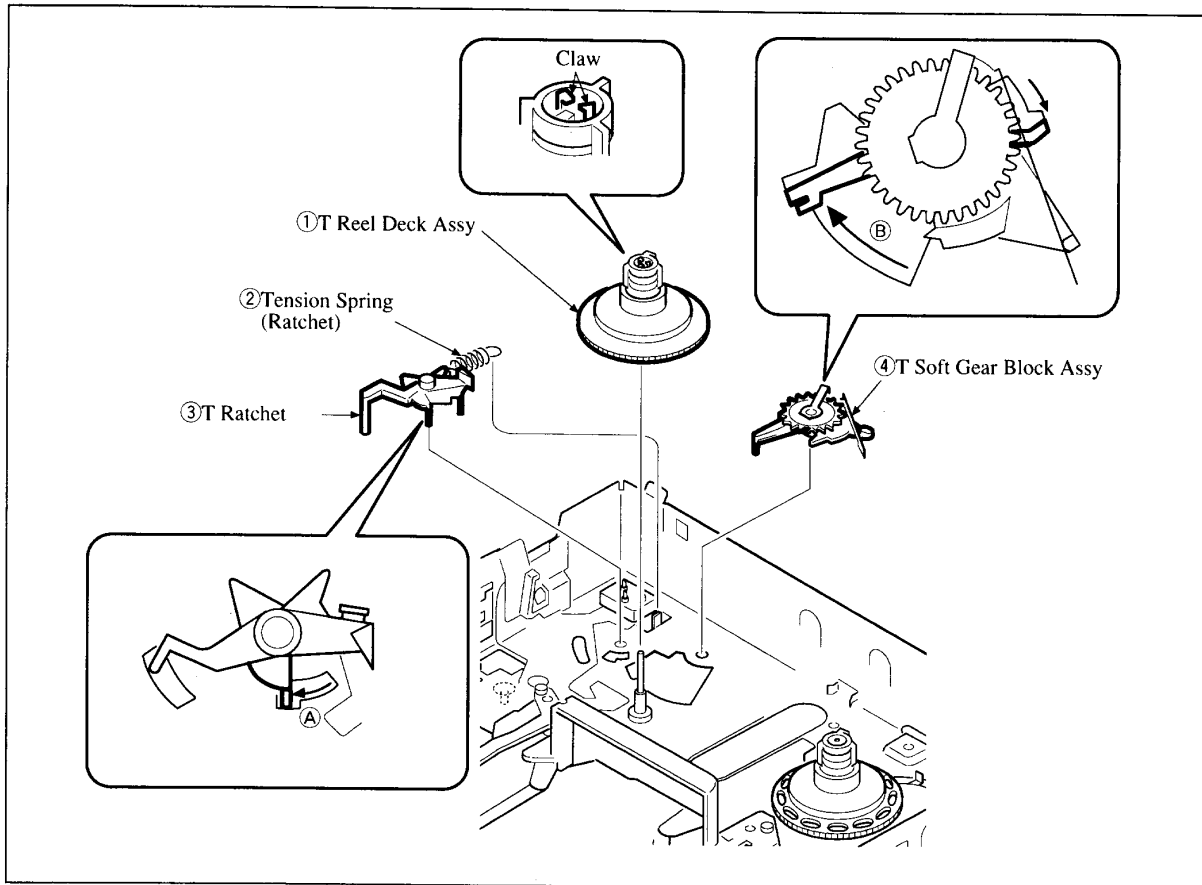


Fig. 11

3-7. Tension Regulator Band Assy, TG1 Arm Assy, S Reel Table Assy, S Ratchet, S Ratchet Release Plate, RVS Arm (Refer to Fig. 12)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 3) Remove the Tension Spring (TG1) ① from the LS Chassis.
- 4) Remove the screw (M 1.4×3) ② and remove the Tension Adjustment Block of the Tension Regulator Band Assy ④ from RVS Arm.
- 5) Release the S Ratchet ⑥ in the direction of the arrow (A) and remove the Tension Regulator Band (while taking care not to bend the band) from the S Reel.
- 6) Remove the TG1 Arm Assy ③ from the LS Chassis, then remove the claw of the Tension Regulator Band Assy ④. (Refer to Fig. a)
- 7) Remove the claw of the S Reel Deck Assy ⑤ from the chassis and remove the S Reel Deck Assy from its shaft.
- 8) Remove the S Ratchet ⑥. (Because it is press-fitted, insert tip of screwdriver into the center of rotation and remove it.
- 9) Remove the Tension Spring (ratchet) ⑦ from the LS Chassis and remove the S Ratchet Release Plate ⑧.
- 10) Remove the Tension Spring ⑨ from the LS Chassis and remove the RVS Arm ⑩ by turning it..

2. Precautions During Re-Assembly

- 1) Confirm that the dowel of the S Ratchet Release Plate is inserted into the groove of the S ratchet and confirm that the center of the ratchet is press-fitted into bottom of the shaft. (It can be used again.)
- 2) When attaching the Tension Regulator Band Assy, take care not to bend it.
- 3) Pay attention that oil or grease is not spit on the surface of the Tension Regulated Band. (Pay attention also not to touch it with hand directly.)
- 4) Confirm that the tension regulator band is correctly inserted into the groove of the S Reel Deck Assy ⑤. (Refer to Fig. b)
- 5) When securing the Tension Adjustment Block using the screw, press it toward the position which gives the least tension, then tighten the fixing screw.
- 6) Before attaching the TG1 Arm Assy, coat the LS Chassis TG1 boss with oil (1/2 drop).
- 7) Do not touch the tape guide of the TG1 Arm Assy with bare hands.
- 8) Confirm that the claw of the S Reel Deck Assy is not deformed.

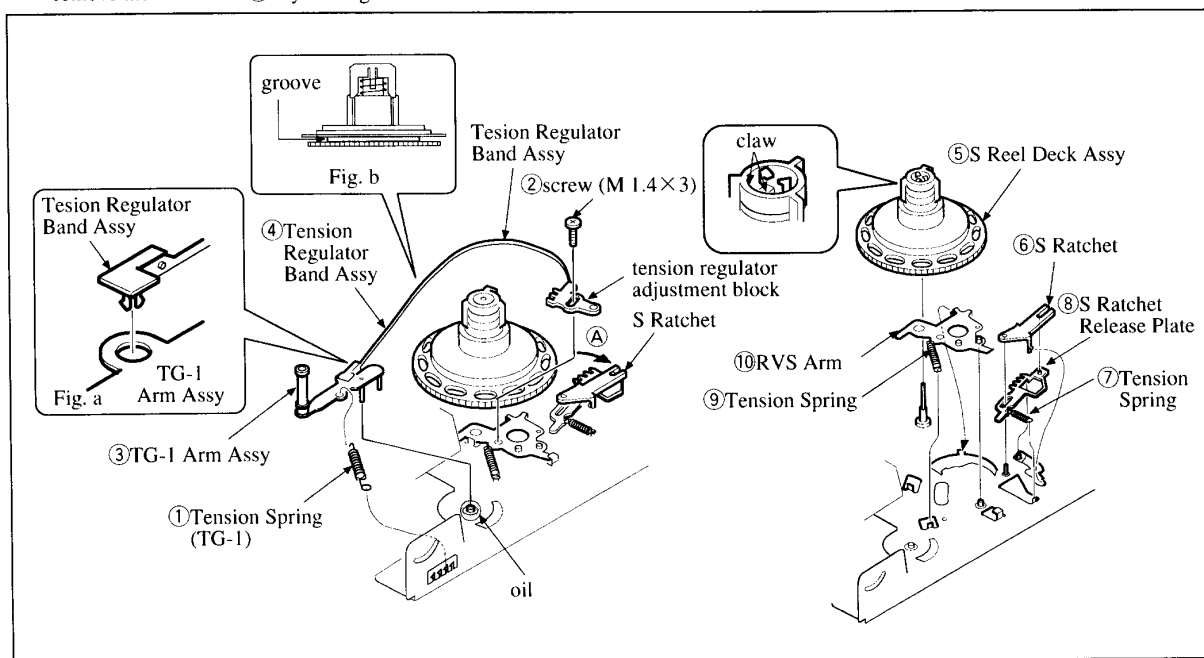


Fig. 12

3-8. Pinch Arm Assy, TG4 Arm Block Assy (Refer to Fig. 13)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 3) Remove the LS Chassis Block Assy referring to section 3-5.
- 4) Remove the Torsion Spring (pinch) ① from an end of Pinch Arm and hook it on the cut-out (A) of the LS Chassis.
- 5) Remove the screw (M 1.4×2.5) ② and remove the TG4 Retainer ③.
- 6) Remove the TG4 Arm Block Assy ④ and remove the Torsion Spring ⑤ while paying attention to the Torsion Spring ⑤.
- 7) Remove the Pinch Arm Assy ⑥. (Caution: The Pinch Press Roller is easy to drop. Pay attention not to drop it.)
- 8) Remove the Torsion Spring (pinch) ① from the cut-out of the LS Chassis in the order of (A) then (B).

2. Precautions During Re-Assembly

- 1) Before attaching these parts, coat the LS chassis pinch arm boss and TG4 arm boss with grease SG-055G (Ref. No. J-13).
- 2) Do not touch the tape guide of the TG4 Arm Block Assy and roller of the Pinch Arm Assy with bare hand.
- 3) After coating the Pinch Press Shaft of the Pinch Arm Assy ③ with grease SG-055G (Ref. No. J-13), attach the Pinch Press Roller.

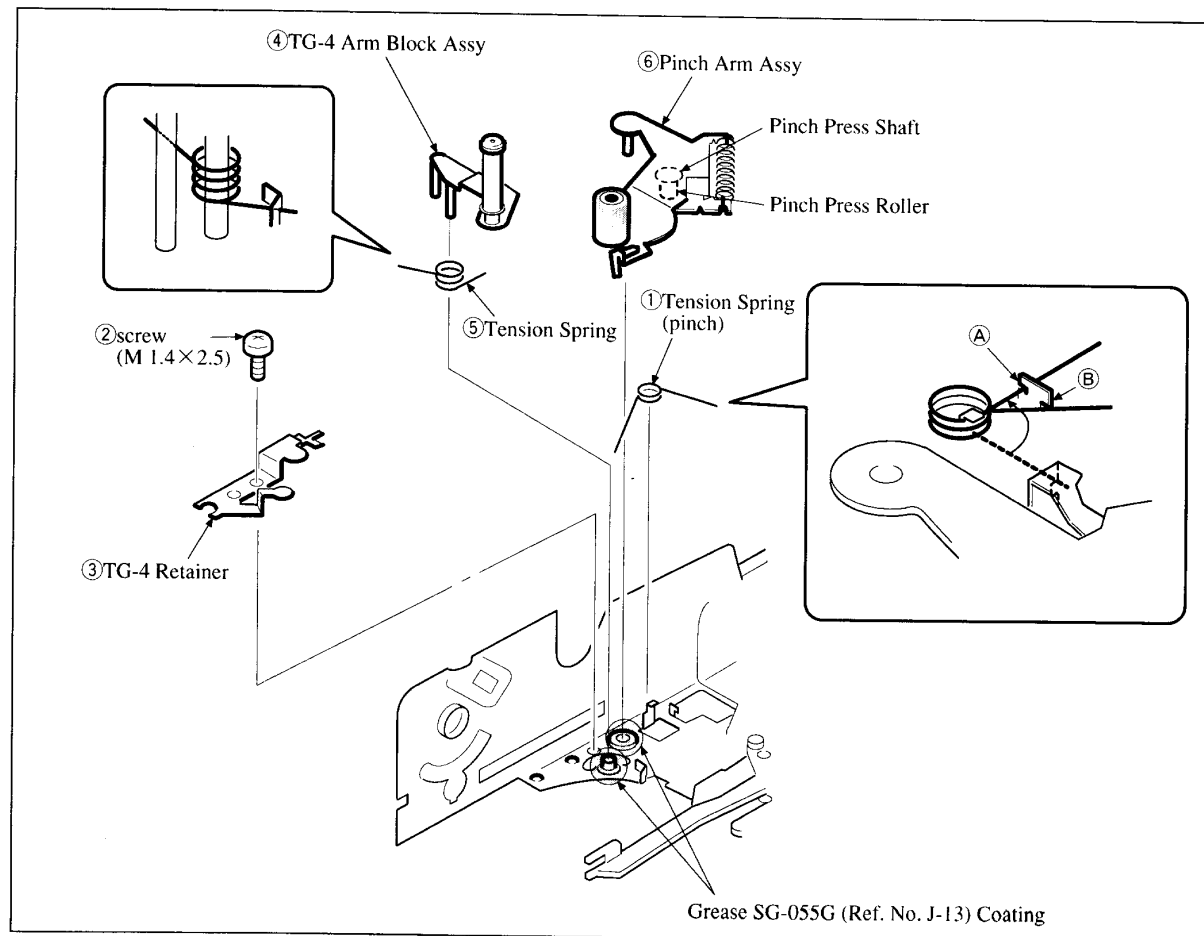


Fig. 13

3-9. LS Cam Plate, LS Guide Cover, Lid Opener, EJ Arm, Lock Guide (Refer to Fig. 14)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 3) Remove the LS Chassis Block Assy referring to section 3-5.
- 4) Remove the two screws (M 1.4×2.5) ① and remove the the LS Cam Plate ②.

In this state, write a mark on the screw ① and on the LS Chassis indicating the position of the LS Cam Plate which helps during re-assembly.

- 5) Remove the LS Guide Cover ③.
- 6) Remove the Lock Guide ④ in the upward direction. (Refer to Fig. a)

- 7) Remove the Lid Open ⑤ in the direction of the arrow ③ while pushing ④ portion.
- 8) Remove the EJ Arm ⑥. (The EJ Arm ⑥ is press-fitted. If the EJ Arm ⑥ is not damaged, it is not necessary to replace.)

2. Precautions During Re-Assembly

- 1) After the captioned parts are attached, confirm that the respective claws and dowels are engaged completely.
- 2) If the EJ Arm ⑥ is removed, be sure to replace it with the new replacement EJ Arm.
- 3) If any mark is not written when removing the LS Cam Plate ②, adjust and attach it as shown in Fig. b.

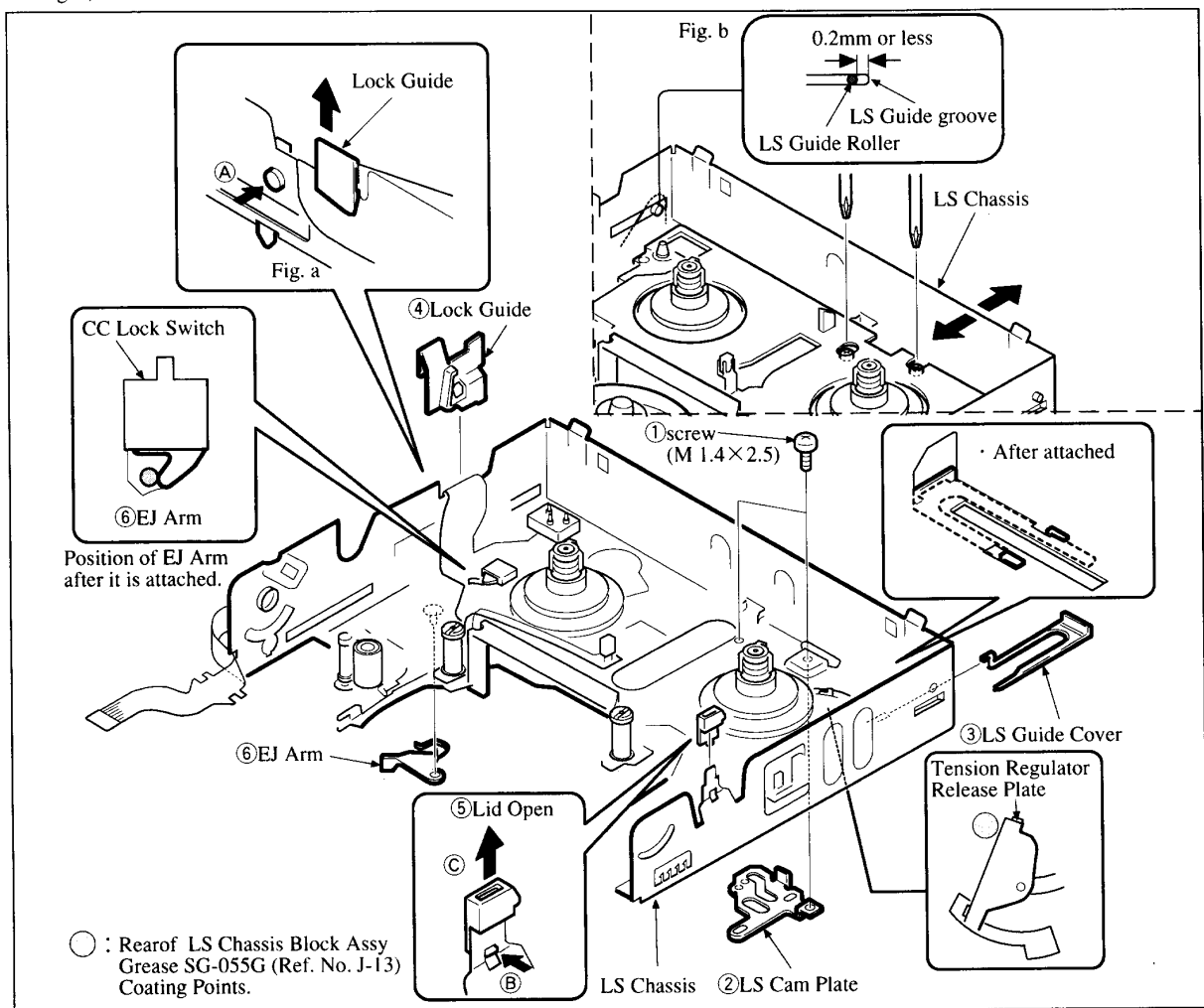


Fig. 14

3-10. Guide Base (S) and (T) Block Assemblies, Guide Rail (Refer to Fig. 15)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 3) Remove the LS Chassis Block Assy referring to section 3-5.
- 4) While pushing the GB Stoppers (S) and (T) in the direction of arrow ①, press the guide arm in the direction of the arrow ②, and turn the Guide Base (S) and (T) Block Assemblies : ① and ② in the direction of the arrow ③ respectively, and remove them.
- 5) Remove the two screws (M 1.4×2.5) ③ and remove the the Guide Rail Assy ④.
- 6) Remove the Stopper (S) and (T) : ⑤ and ⑥, then remove the GB Stopper S and T: ⑦ and ⑧.

2. Precautions During Re-Assembly

- 1) Pay attention not to deform the Guide Rail.
- 2) Do not touch the tape guide of the Guide Base (S) and (T) Block Assemblies with bare hand.
- 3) Pay attention not to deform the Stoppers (S) and (T).
- 4) When attaching the Guide Base (S) and (T) Blocks to the Guide Rail, move back the Guide Bases until the GB Stoppers (S) and (T) are locked. ("Click" sounds.)
- 5) After the captioned parts are attached, perform section "4. TAPE PATH ADJUSTMENT".

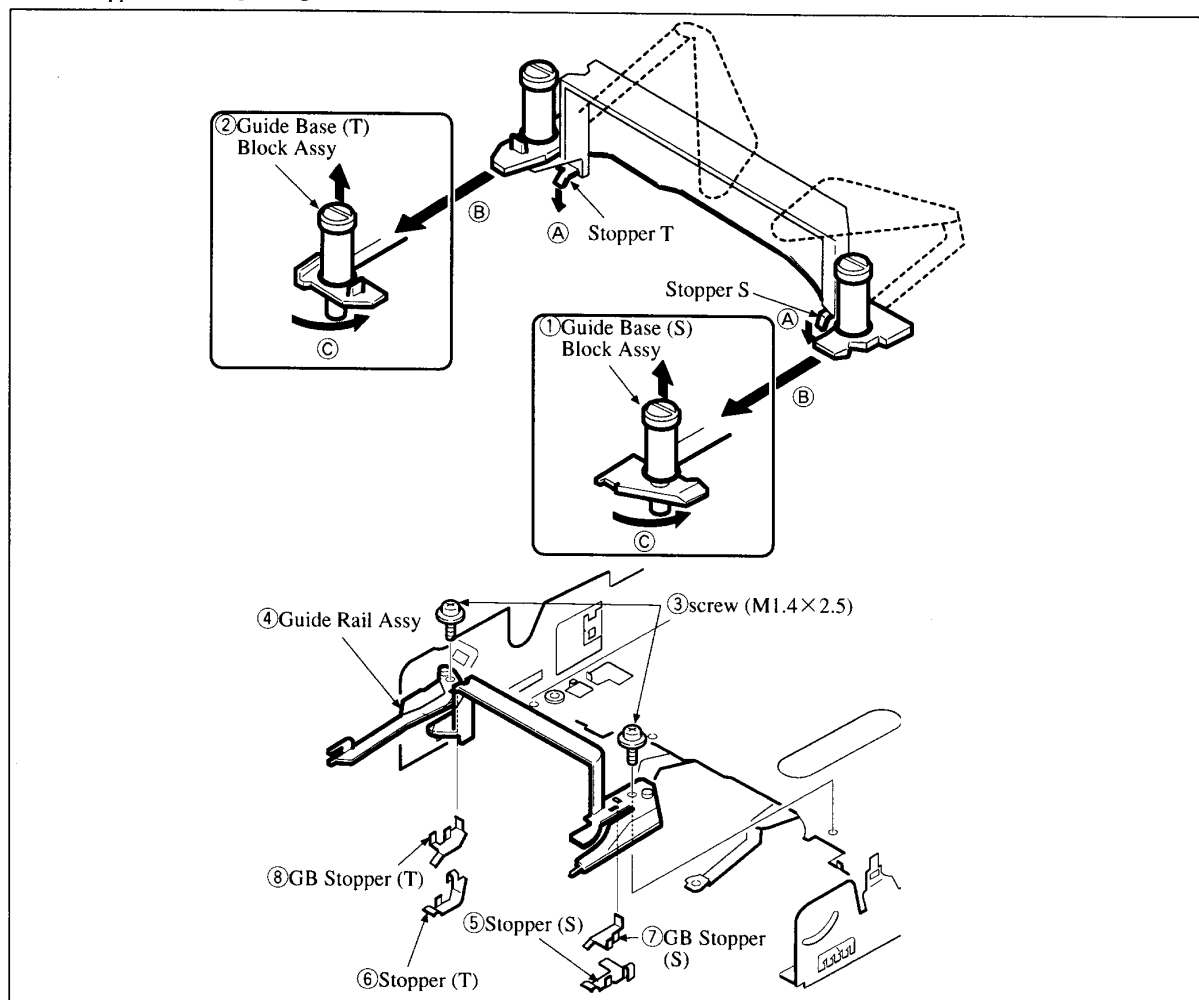


Fig. 15

• PARTS CONSTITUTING THE MECHANISM CHASSIS

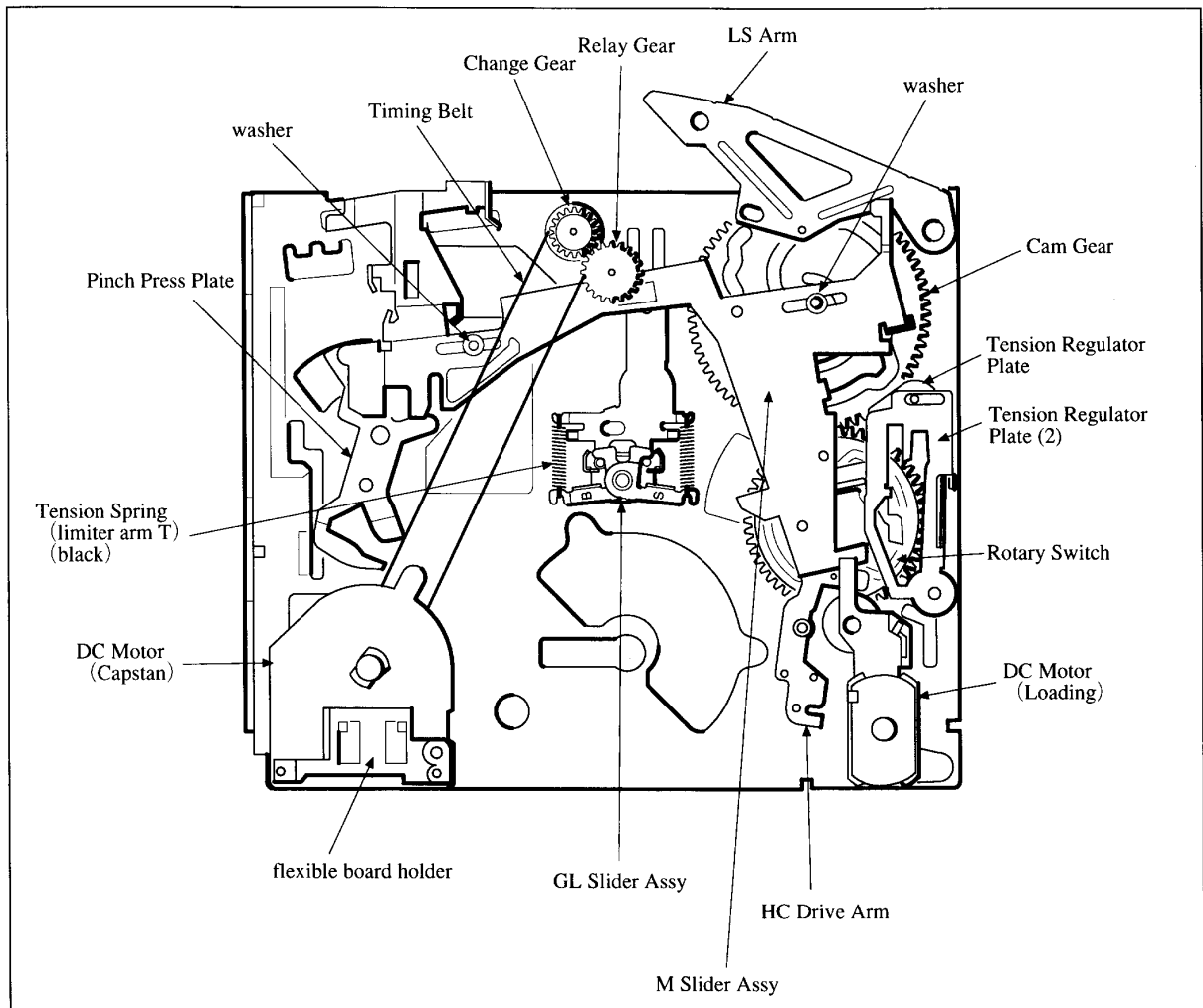


Fig.16

3-11. DC Motor Assy (Loading) (Refer to Fig. 17)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove soldering from the (A) portion.
- 8) Remove the screw (M 1.4×2.5) (1) and remove the Motor Holder Block Assy (2) from the mechanism chassis along with the claw beneath the Motor Holder Block Assy as shown by the arrow (B).
- 9) Remove the Motor Shield (3) in the direction of the arrow (C) (by opening the two ★ star marked points).
- 10) Release the claw on top of the Motor Holder (5) and remove the DC Motor Assy (4) in the direction of the arrow (D).
- 11) Remove the Motor Holder Sleeve (6), Gear A (7) and Worm Shaft (8) in this order.

2. Precautions During Re-Assembly

- 1) Before attaching the Gear A (6), coat the Retainer Shaft (E) with grease SG-055G (Ref. No. J-13).
- 2) After assembling the Motor Holder Block Assy, coat the six locations shown by Fig. a with grease SG-055G (Ref. No. J-13).
- 3) The HC Drive Arm is easy to drop. Confirm that it is attached referring to Fig. 19.

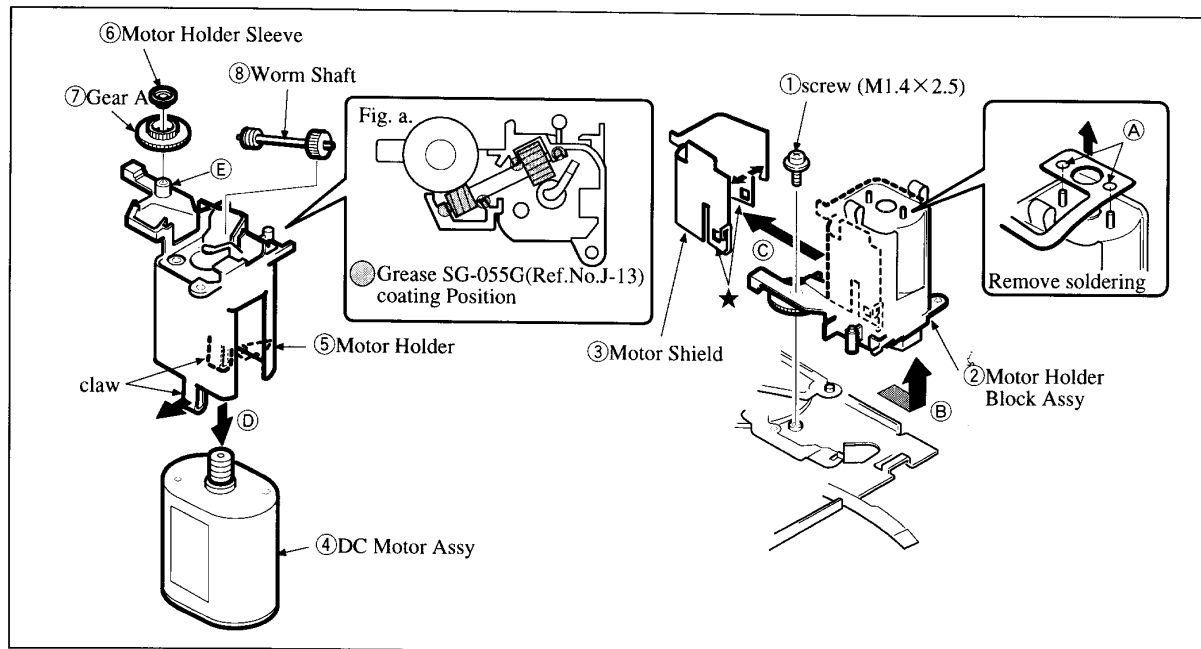


Fig. 17

3-12. Tension Regulator Plate 2, Relay Gear, M Slider Assy (Refer to Fig. 18)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove the DC motor referring to section 3-11.
- 8) Remove the Tension Regulator Plate 2 ①.
- 9) Remove the Relay Gear ②.
- 10) Remove the two washers ③. Remove the M Slider Assy ④.

At the point, confirm that the LS Roller ⑤ is not dropped.

2. Precautions During Re-Assembly

- 1) Before attaching the M Slider Assy ④, coat the LS Roller Shaft ① on the back of the M Slider Assy, the Pinch Press Plate Shaft ② and the mechanism chassis M Slider Axis ③ with grease SG-055G (Ref. No. J-13). (Refer to Fig. b)
- 2) While confirming the phase-determining holes, attach the M Slider Assy ④ while paying attention to the claw.
- 3) Attach the Tension Regulator Plate 2 ① inside the Tension Regulator Plate. (Refer to the asterisk * Marked portion of Fig. a)
- 4) Before attaching the Relay Gear ②, coat the mechanism chassis Relay Gear Axis ④ with grease SG-055G (Ref. No. J-13).

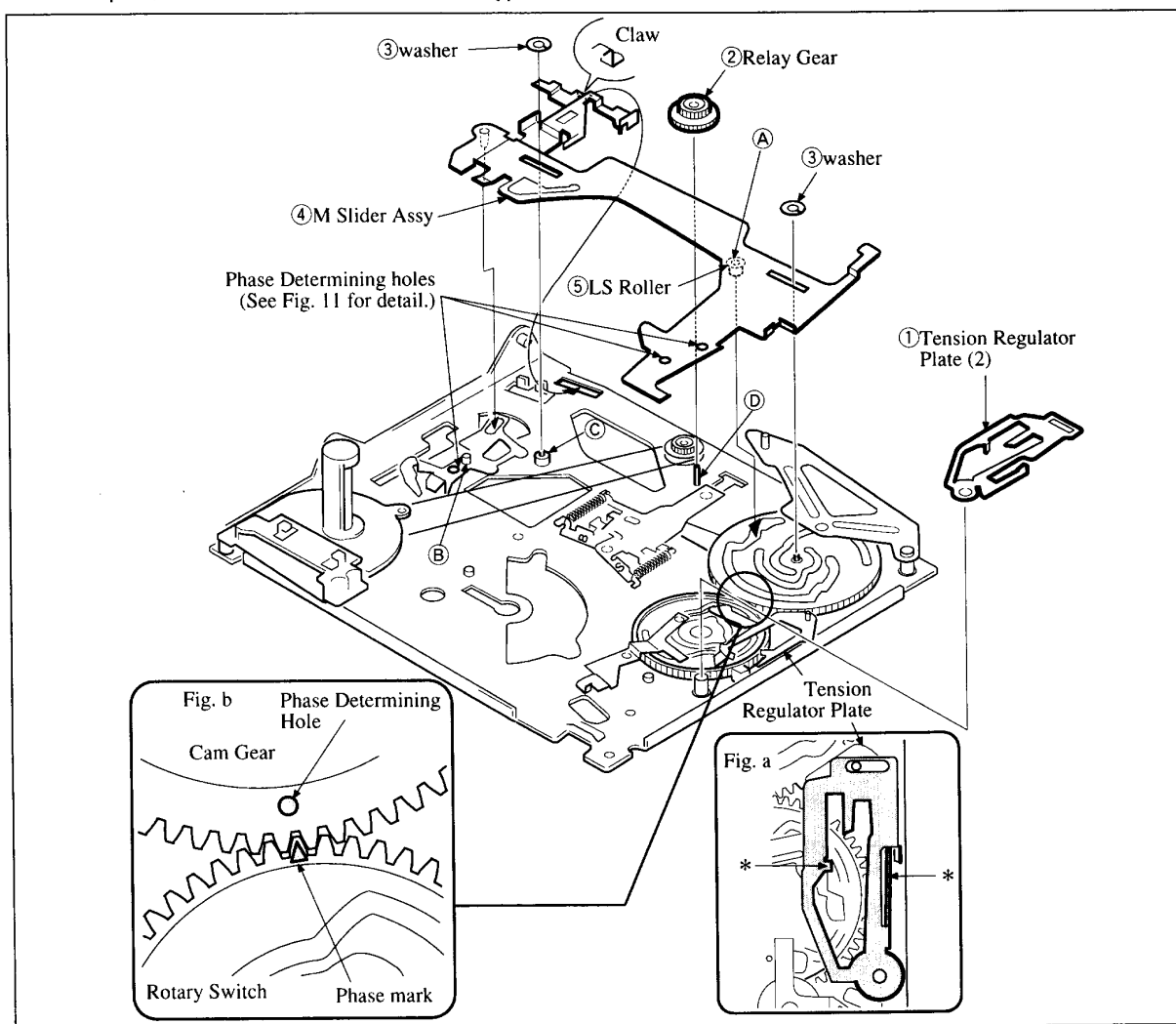


Fig. 18

3-13. LS Arm, HC Drive Arm, Pinch Press Plate, Tension Regulator Plate (Refer to Fig. 19)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove the DC Motor Assy referring to section 3-11.
- 8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
- 9) Remove the LS Arm ①. At this point, confirm that the LS Roller ② is not dropped.
- 10) Remove the HC Drive Arm ③, Pinch Press Plate ④ and Tension Regulator Plate ⑤.

2. Precautions During Re-Assembly

- 1) Before attaching the captioned parts, confirm that phases of the Cam Gear and the Rotary Switch agree. (See Fig. a.)
- 2) Insert the dowel of the Tension Regulator Plate ⑤ into the groove outside the rotary switch.
- 3) Before attaching the Pinch Press Plate ④, check for grease on the mechanism chassis Pinch Press Plate Shaft (A). If grease cannot be found, coat it with grease SG-055G (Ref. No. J-13). After attaching the Pinch Press Plate ④, align its phase hole until it agrees with the phase-determining hole on the mechanism chassis.
- 4) Insert the dowel of the HC Drive Arm ③ into the groove inside the rotary switch.
- 5) Before attaching the LS Arm ①, coat the LS roller shaft of the LS Arm ① with grease SG-055G (Ref. No. J-13).

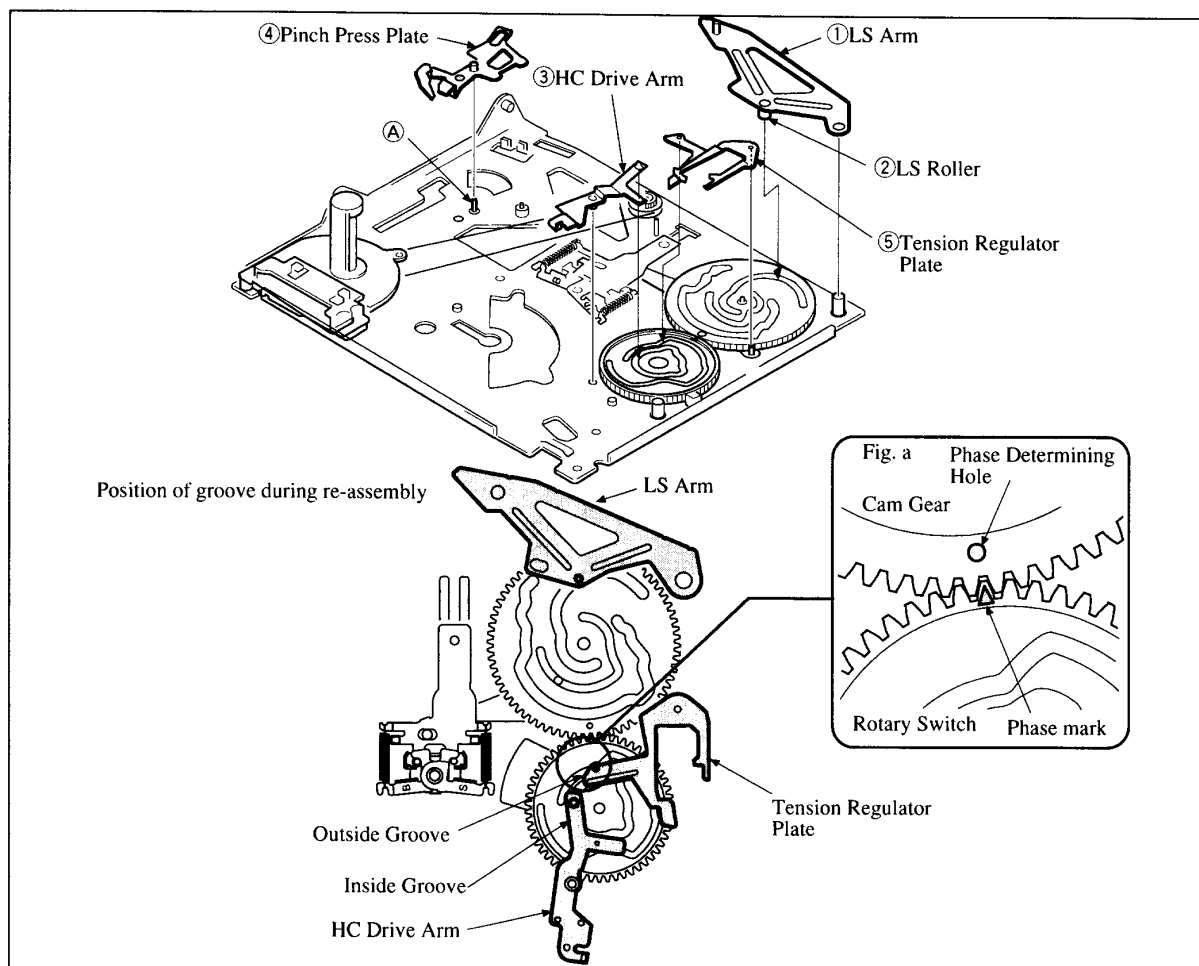


Fig. 19
— 23 —

3-14. Cam Gear (Refer to Fig. 20)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove the DC Motor Assy referring to section 3-11.
- 8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
- 9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
- 10) Remove the Cam Gear ①.

2. Precautions During Re-Assembly

- 1) Before attaching the Cam Gear ①, align the phase mark on the rotary switch until it agrees with the phase-determining hole ① on the mechanism chassis, and align the GL Arm's phase mark ② until it agrees with the phase-determining hole ① on the mechanism chassis. Coat the mechanism's chassis Gear Axis ① with grease SG-055G (Ref. No. J-13).
- 2) Attach the Cam Gear ① so that its phase hole agrees with the phase mark on the rotary switch. (Refer to Fig. a)
- 3) After the Cam Gear ① is attached, coat the GL Arm Axis Block of the cam gear with grease SG-055G (Ref. No. J-13).

Reference : The phase marks of the Cam Gear and Rotary Switch can also be checked from the rear side of mechanism chassis. It means that the phase can be confirmed after mechanism deck is fully re-assembled.

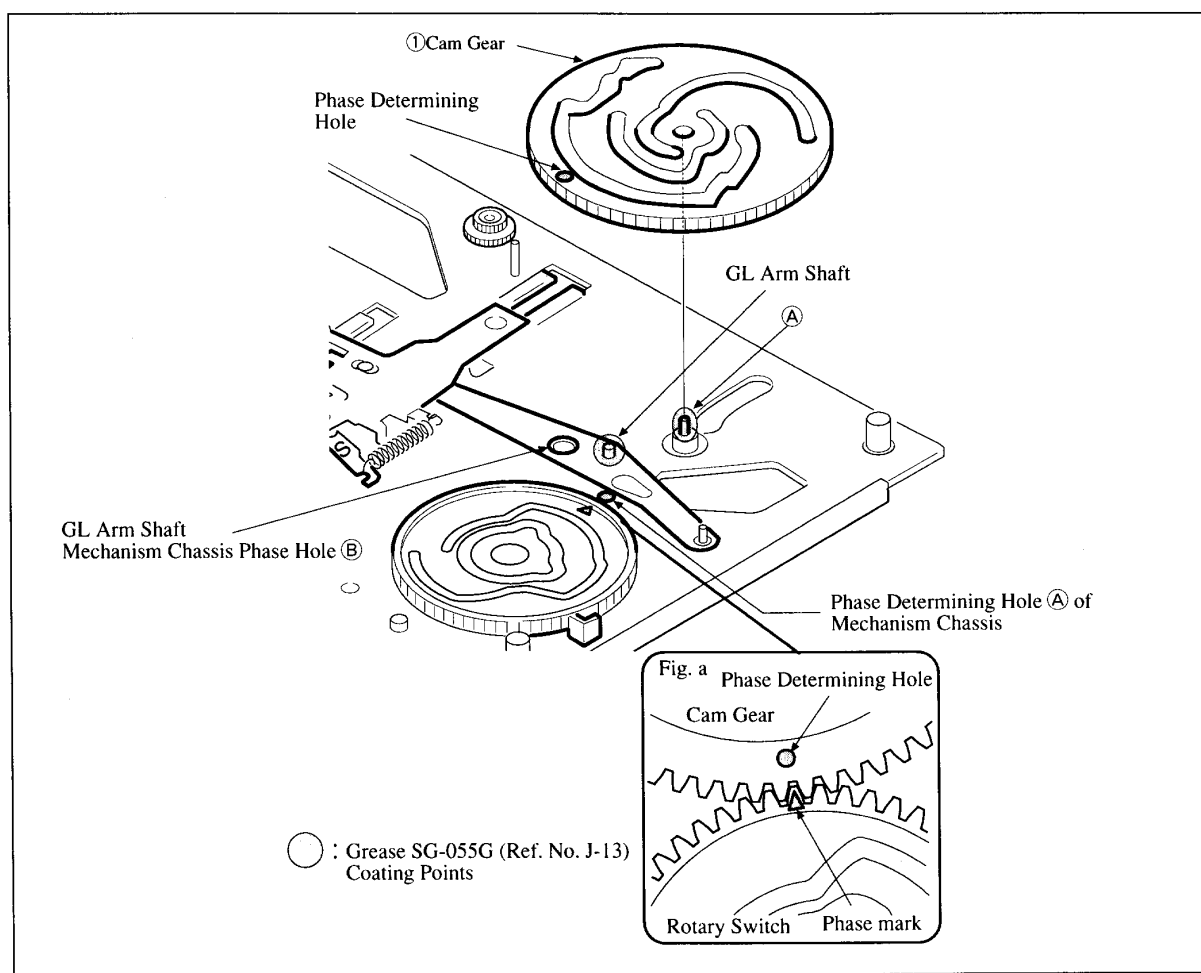


Fig. 20

3-15. GL Slider Assy, GL Arm (Refer to Fig. 21)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove the DC Motor Assy referring to section 3-11.
- 8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
- 9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
- 10) Remove the Cam Gear referring to section 3-14.
- 11) Remove the GL Slider Assy ① by sliding it in the direction of the arrow ④.
- 12) Remove the GL Arm ②.

2. Precautions During Re-Assembly

- 1) The Tension Spring T③ is colored black and the Tension Spring S④ is colored silver.
- 2) Coat the position shown in Fig. a of the GL Slider Assy ① with grease SG-055G (Ref. No. J-13).
- 3) Coat the four points ⑤ where GL slider is attached on the mechanism chassis with grease SG-055G (Ref. No. J-13).
- 4) After attaching the GL Arm ② and the GL Slider Assy, align the GL arm phase hole until it agrees with the phase-determining hole on the mechanism chassis.

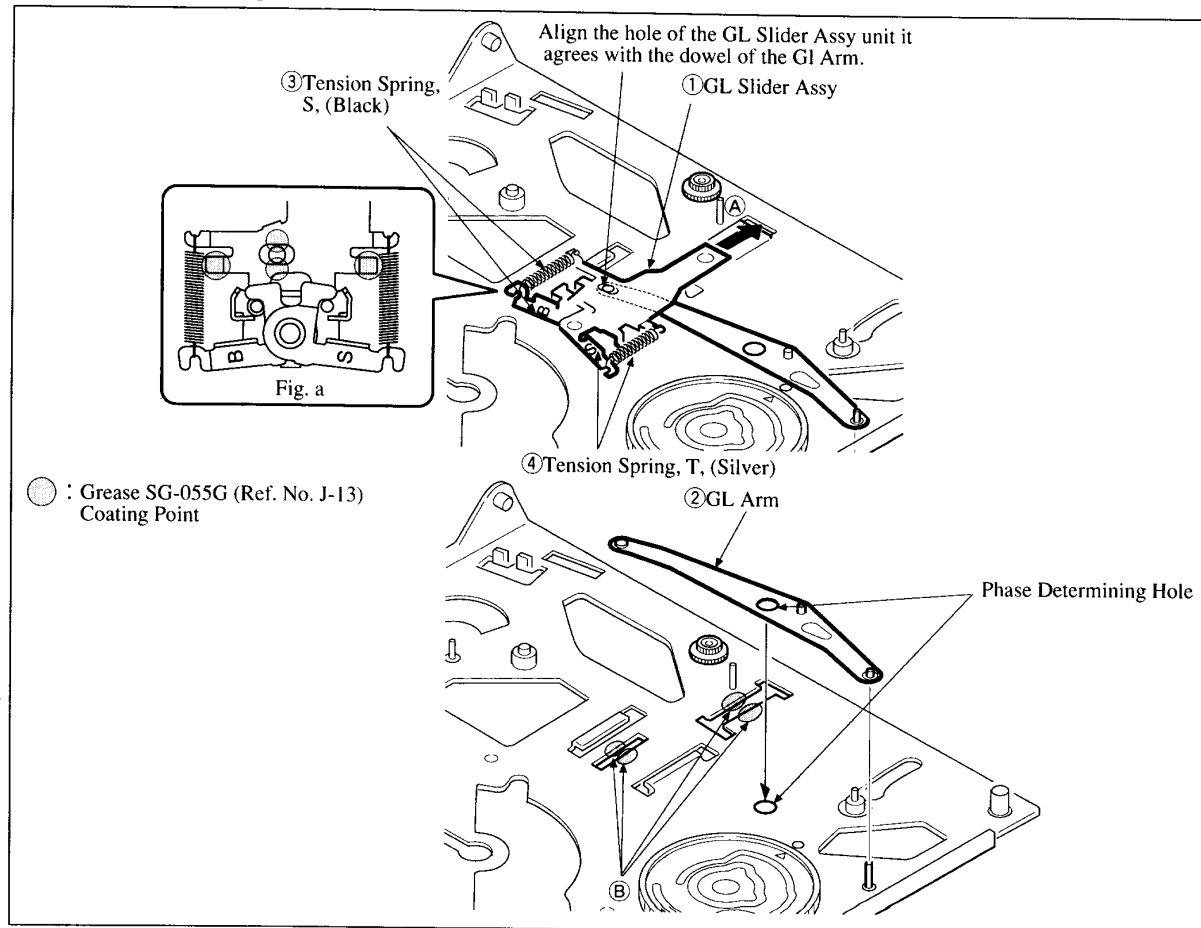


Fig. 21

3-16. Rotary Switch (Refer to Fig. 22)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove the DC Motor Assy referring to section 3-11.
- 8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
- 9) Remove the LS Arm, Tension Regulator Plate, HC Drive Arm and Pinch Press Plate referring to section 3-13.
- 10) Remove the Cam Gear referring to section 3-14.
- 11) Remove soldering the portion ① on the rear of the Rotary Switch. (Pay attention at this moment that the GL Slider and GL Arm do not drop.)
- 12) While lifting up the portion ② about 1 mm (pay attention not to break it), hold the portion ③ and turn it in the direction of the arrow ④ to remove the Rotary Switch.

2. Precautions During Re-Assembly

- 1) Before attaching the Rotary Switch by soldering on the FP-220 board, insert the portion ② dowel into the hole on the mechanism chassis. Confirm that the three claws are engaged with the mechanism chassis.

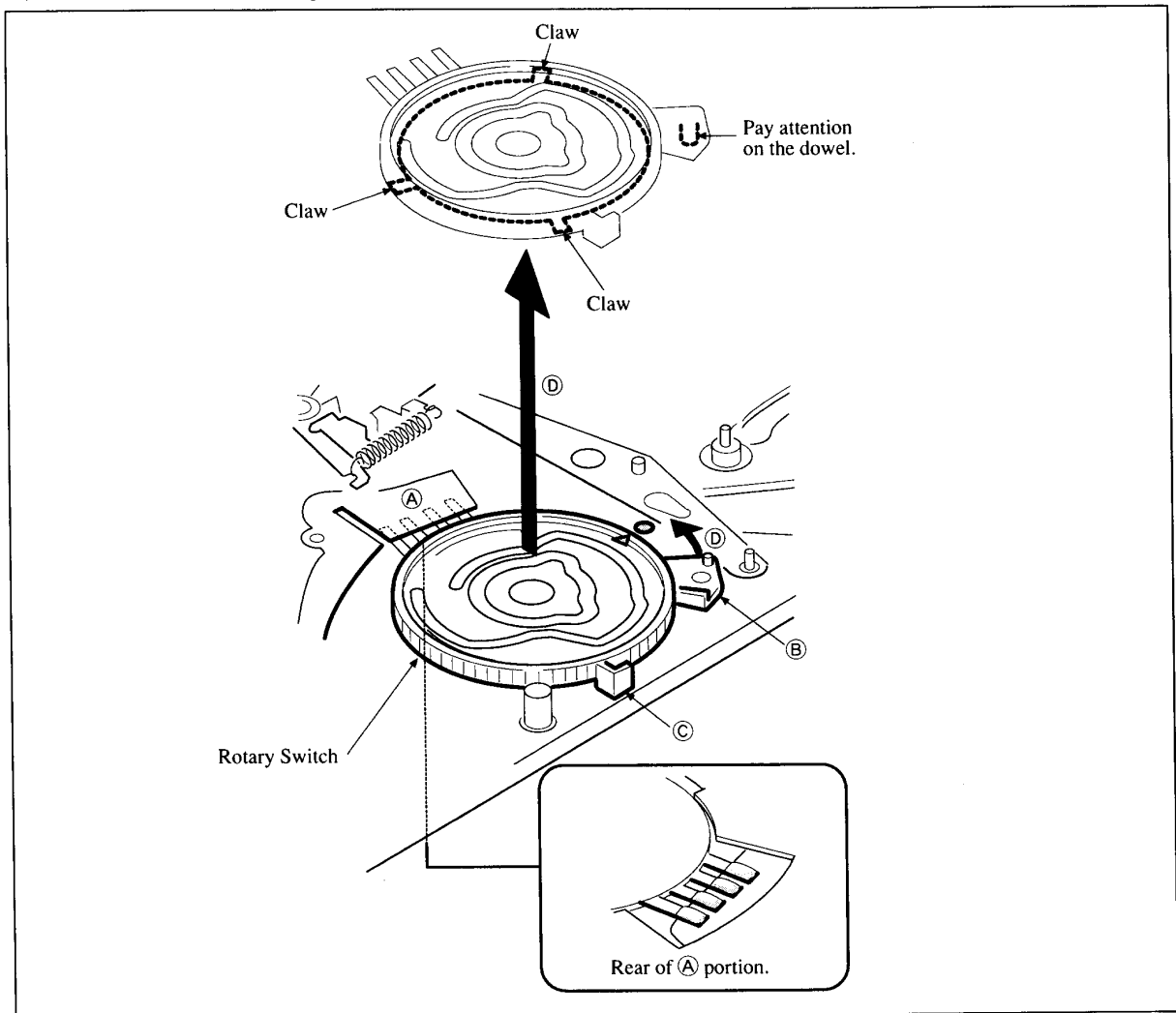


Fig. 22

3-17. Capstan Motor (Refer to Fig. 23)

1. Disassembly Procedure

- 1) Remove the Cassette Compartment Block Assy referring to section 1-1.
- 2) Remove the HC Roller Block Assy referring to section 3-1.
- 3) Remove the Drum Assy referring to section 3-2.
- 4) Remove the Drum Base Block Assy referring to section 3-3.
- 5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
- 6) Remove the LS Chassis Block Assy referring to section 3-5.
- 7) Remove the DC Motor Assy referring to section 3-11.
- 8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
- 9) Remove the Pinch Press Plate referring to section 3-13.
- 10) Remove the screw (M 1.4×6.7) ① and remove the Flexible Board Holder ②.
- 11) Remove the two screws (M 1.4×6.7) ③ and remove the Capstan Motor ④, Timing Belt ⑤ and Capstan Spacer ⑥.
- 12) Remove the washer ⑦ and remove the Changer Gear ⑧.

2. Precautions During Re-Assembly

- 1) Confirm that the timing belt is not twisted.
- 2) Do not touch the capstan with bare hand.
- 3) Lubricate the mechanism chassis's Change Gear shaft ①.
- 4) After attaching the Capstan Motor, perform the capstan azimuth adjustment.

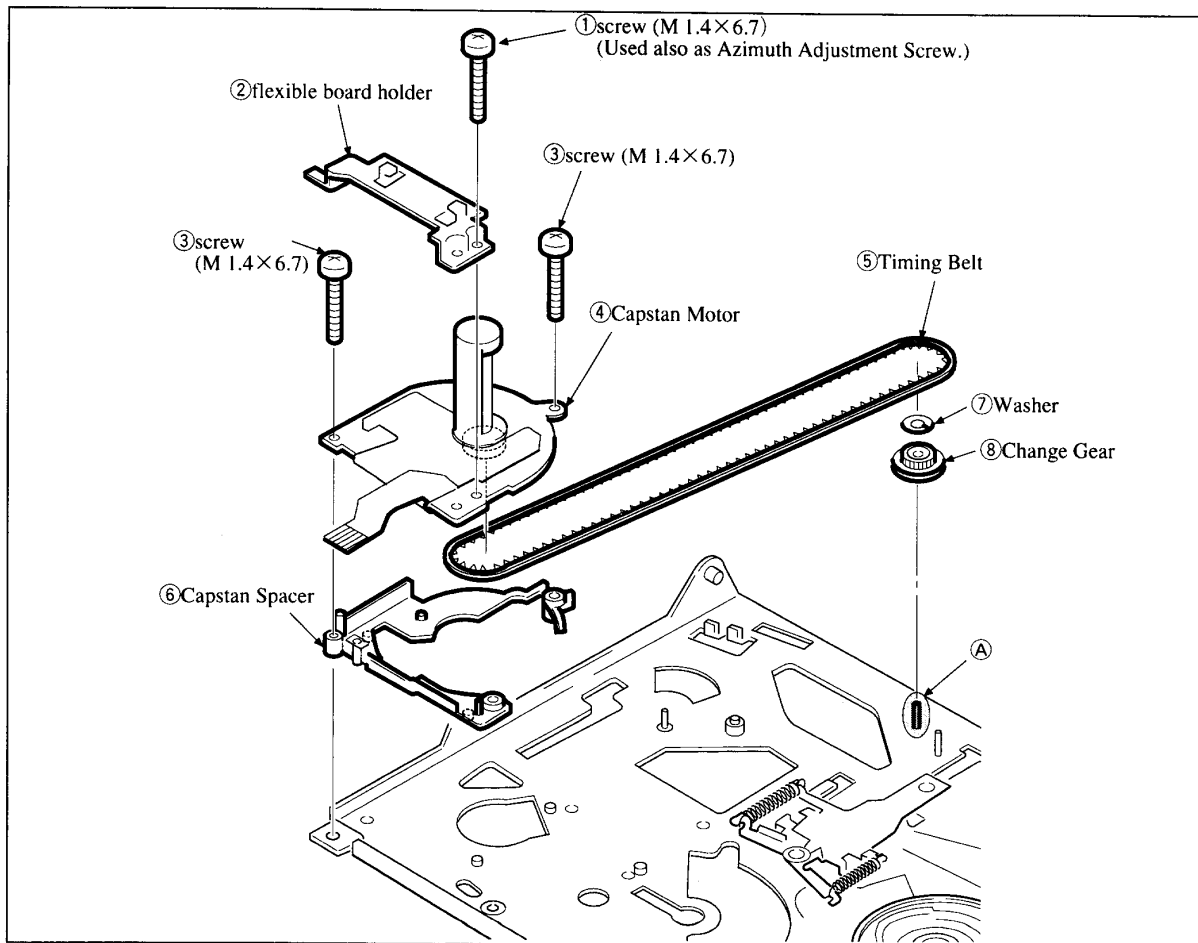
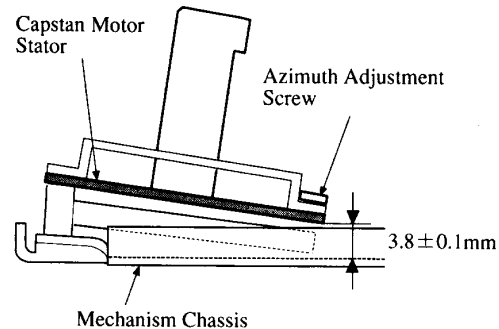


Fig. 23

3-18. Tension Regulator Position Adjustment (Refer to Fig.24)

1. Adjustment Procedure

- 1) Insert a cassette Tape and run the Tape in PB mode.
- 2) While tape is running, confirm that the distance between the LS Chassis and TG-1 Guide's top flange is 8.3mm.
- 3) If not, proceed to step 4).
- 4) Loosen the screw ① (M 1.4×3).
- 5) If the TG-1 Guide is located inside the specified position, move position of the Tension Regulator Band Assy using the FWD B.T. Adjustment tool screwdriver (Ref. No. J-9) as shown in the direction of the arrow (A). If it is located outside, move it in the direction of the arrow (B).
- 6) Tighten the screw ① (M 1.4×3).

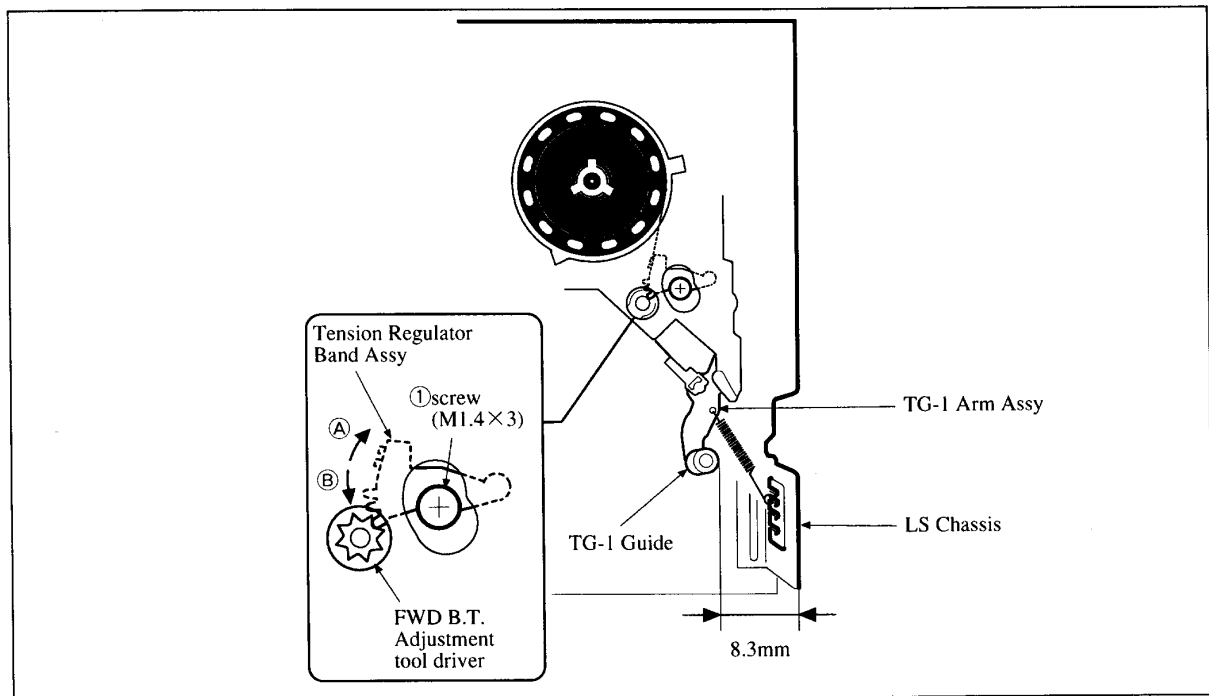


Fig.24

3-19. FWD Tape Hold-Back Tension Adjustment (Refer to Fig. 25)

1. Adjustment Procedure

- 1) Insert the torque measurement cassette to the machine.
- 2) Put the machine in the FWD mode. Confirm that the reading on the S side is in the range from 8.0 to 10.5 g•cm. If the reading is outside the specification range, make the following adjustments.
- 3) If the reading is higher than the specification, change the TG-1 Tension Spring to the side (A).
- 4) If the reading is lower than the specification, change the TG-1 Tension Spring to the side (B).

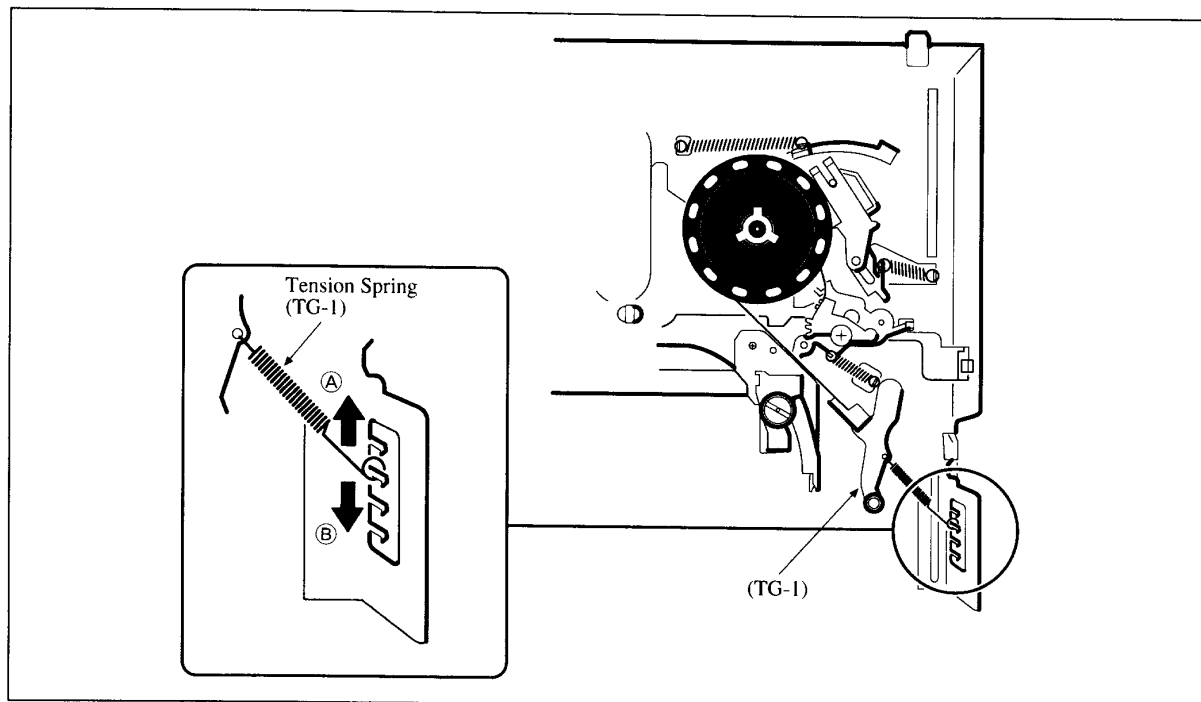


Fig. 25

4. TAPE PATH ADJUSTMENT

Purpose: Adjusts the head linearity.
Adjustment Error: Noise appears on top and bottom of display when playing back the tape recorded by other machines.

4-1. Preparations for Adjustments

- 1) Clean the tape running surface (tape guide, drum, capstan, pinch roller).
- 2) Connect the adjustment remote commander to the REMOTE terminal (JACK block).
- 3) Establish the PATH mode using the adjustment remote commander (Track Shift mode)* to cancel auto tracking.
- 4) Connect an oscilloscope.
 CH1: Test connector PB RF terminal
 External trigger: Test connector PB SWP terminal
- 5) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
- 6) Check to see that RF waveform is flat at input and exit sides on oscilloscope.
 If it not flat, perform the following section 4-2 until it is flat.
- 7) After completing the adjustment, release the PATH mode (Track Shift mode)*.

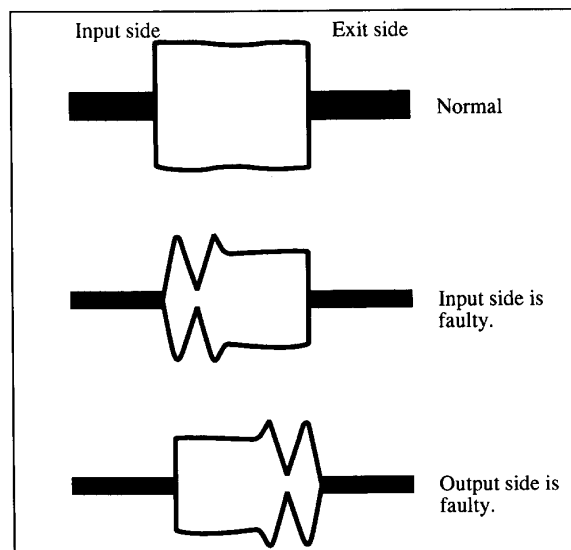


Fig. 26

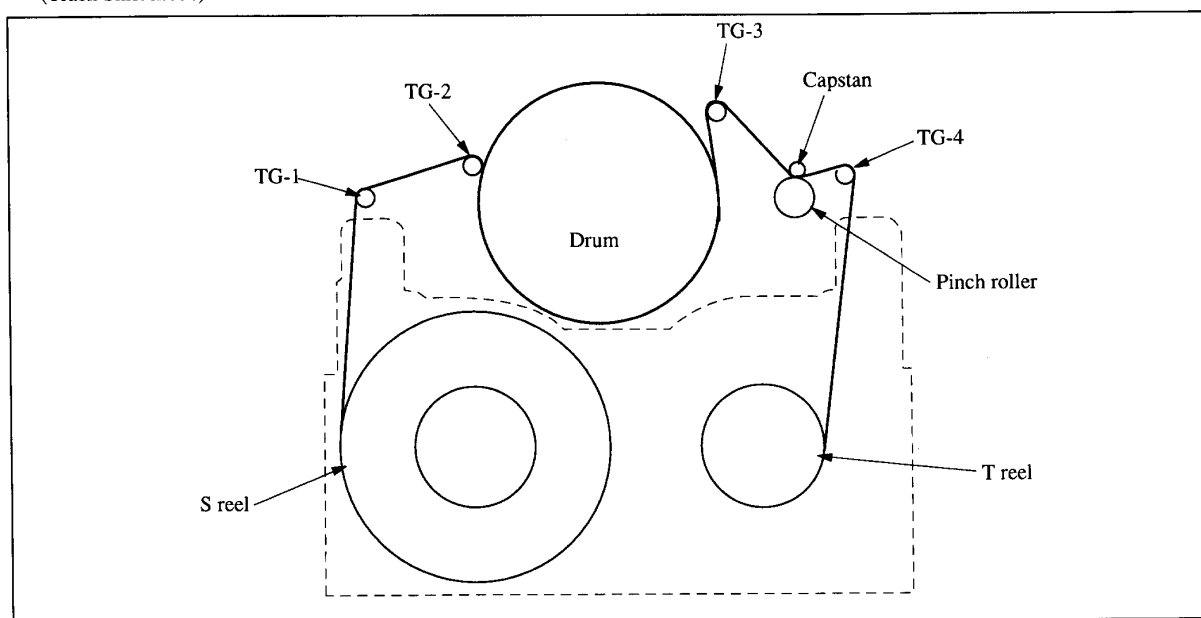


Fig. 27

* How to enter and exit the Track Shift mode. (In the case of CCD-TR420E/TR440E)

Entering the Track Shift mode

1. Select page : 6, address : 00 set data : 01 and press the PAUSE button.
2. Select page : 7, address : 01 set data : 03 and press the PAUSE button.

Exiting the Track Shift mode

1. Select page : 7, address : 01 set data : 00 and press the PAUSE button.
2. Select page : 6, address : 00 set data : 00 and press the PAUSE button.

4-2. Tracking Adjustment (Refer to Fig. 28.)

- 1) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
- 2) Adjust the tape guide No. 2 until the input side waveform becomes flat.
- 3) Adjust the tape guide No. 3 until the input side waveform becomes flat.

☆ Zenith adjustment screws for the TG-2 and TG-3 do not need to be adjusted.

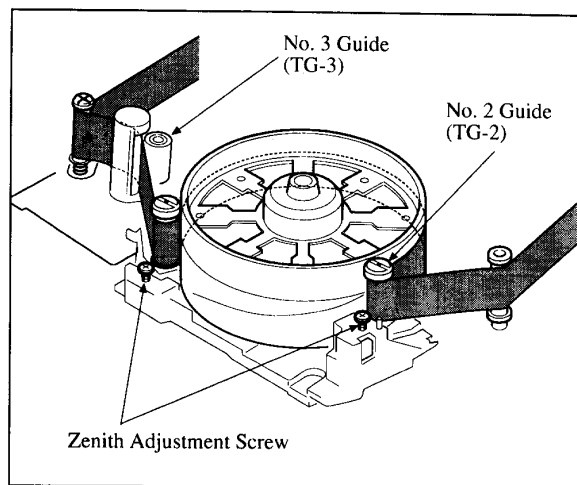


Fig. 28

4-3. No. 4 Guide (TG-4) Adjustment (Refer to Fig. 29.)

- 1) Playback a tape in REV mode.
- 2) Confirm that tape slack does not occur in between the guide No. 3 (TG-3) ① and Capstan ②. If tape slack is found, turn the height adjustment screw ④ of the Guide No. 4 (TG-4) ③ until tape slack is removed.
- 3) Playback a tape in FWD mode. Confirm that tape slack does not occur in between the guide No. 4 (TG-4) ③ and capstan ②. (Specification = 0.5 mm or less) If tape slack of more than 0.5 mm is found, turn the TG-4 nut ④ until the slack is 0.5 mm or less. Playback tape in REV mode and confirm that tape slack in between the guide No. 3 (TG-3) ① and capstan ② is 0.3 mm or less, the adjustment is complete.

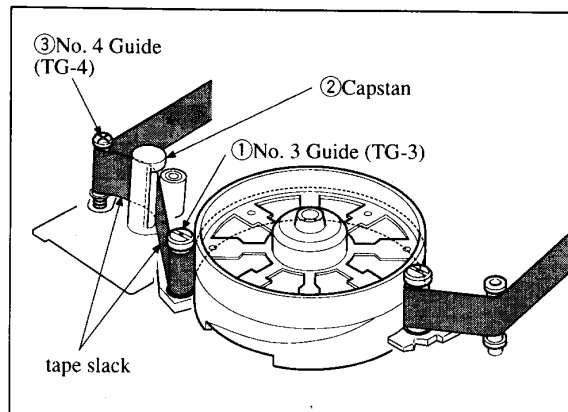


Fig. 29

4-4. CUE, REV Waveforms Check (Refer to Fig. 30.)

- 1) Playback the tracking alignment tape in REV mode.
Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
The pitches are not equally spaced, perform sections "4-2. Tracking Adjustment" and section "4-3. No. 4 Guide Adjustment".
- 2) Playback the tracking alignment tape in CUE mode.
Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
The pitches are not equally spaced, perform section "4-2. Tracking Adjustment".

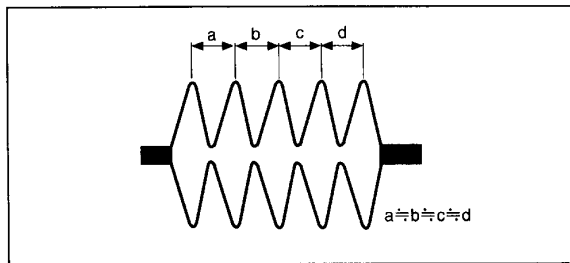


Fig. 30

4-5. Checks After Adjustments

4-5-1. Tracking Check

- 1) Confirm that amplitude of the RF waveform decreases to about 3/4 when the machine enters the PATH mode. (Refer to Fig. 31)
- 2) Confirm that the minimum amplitude (E_{MIN}) of the RF waveform is 65 % or more of the maximum amplitude (E_{MAX}). (Refer to Fig. 32)
- 3) Confirm that the RF waveform does not have too much fluctuation. (Refer to Fig. 33)

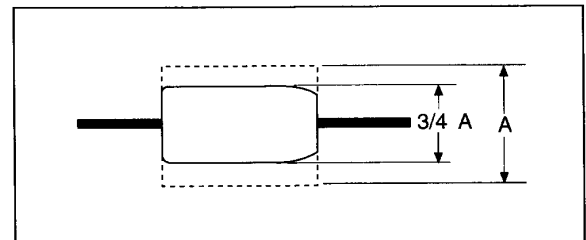


Fig. 31

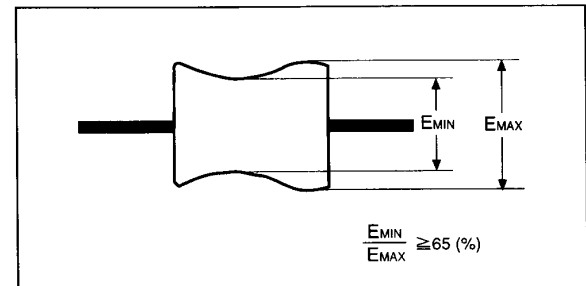


Fig. 32

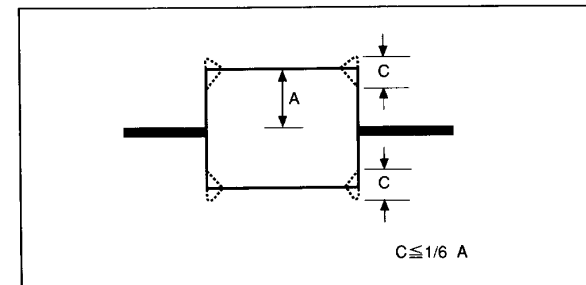


Fig. 33

4-5-2. Waveform Build-up Check (Refer to Fig. 34.)

- 1) Playback the tracking alignment tape.
- 2) Turn OFF the Track Shift mode.
- 3) Eject the tape once, insert and load the tape.
- 4) Start playing back the tape and confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
- 5) Playback the tape in CUE/REV and FF/REW modes respectively. Confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
- 6) Repeat the check items 3) to 5) again.

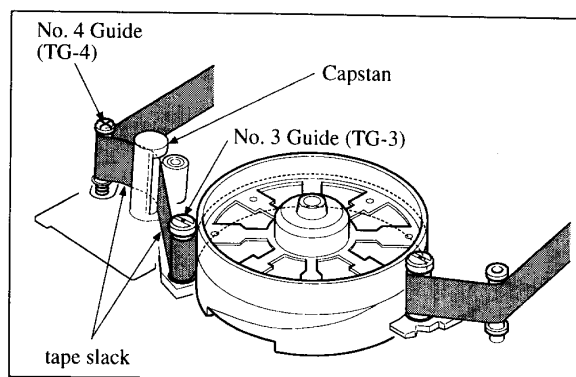


Fig. 34

4-5-3. Tape Pass Check (Refer to Fig. 35.)

- 1) Insert a thin video tape such as P6-120MP (NTSC) or P5-120MP (PAL). Playback the thin tape. Confirm that there is no clearance or curl of 0.3 mm or more at the following points: Upper flange of guide No. 2, upper flange of guide No. 3, upper and lower flanges of guide No. 4.
- 2) Confirm that there is no clearance or curl of 0.3 mm or more at each tape guide when the FF button is pressed from the playback mode to enter the CUE mode, and when the REW button is pressed from the playback mode to enter the REV mode.

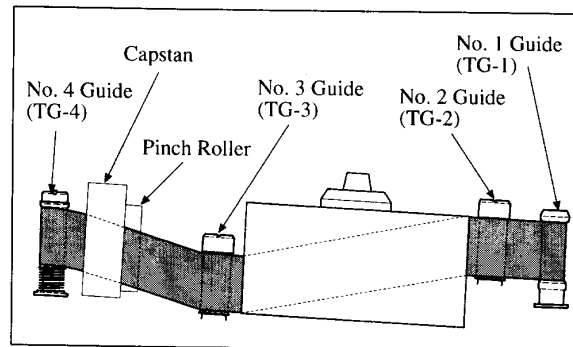
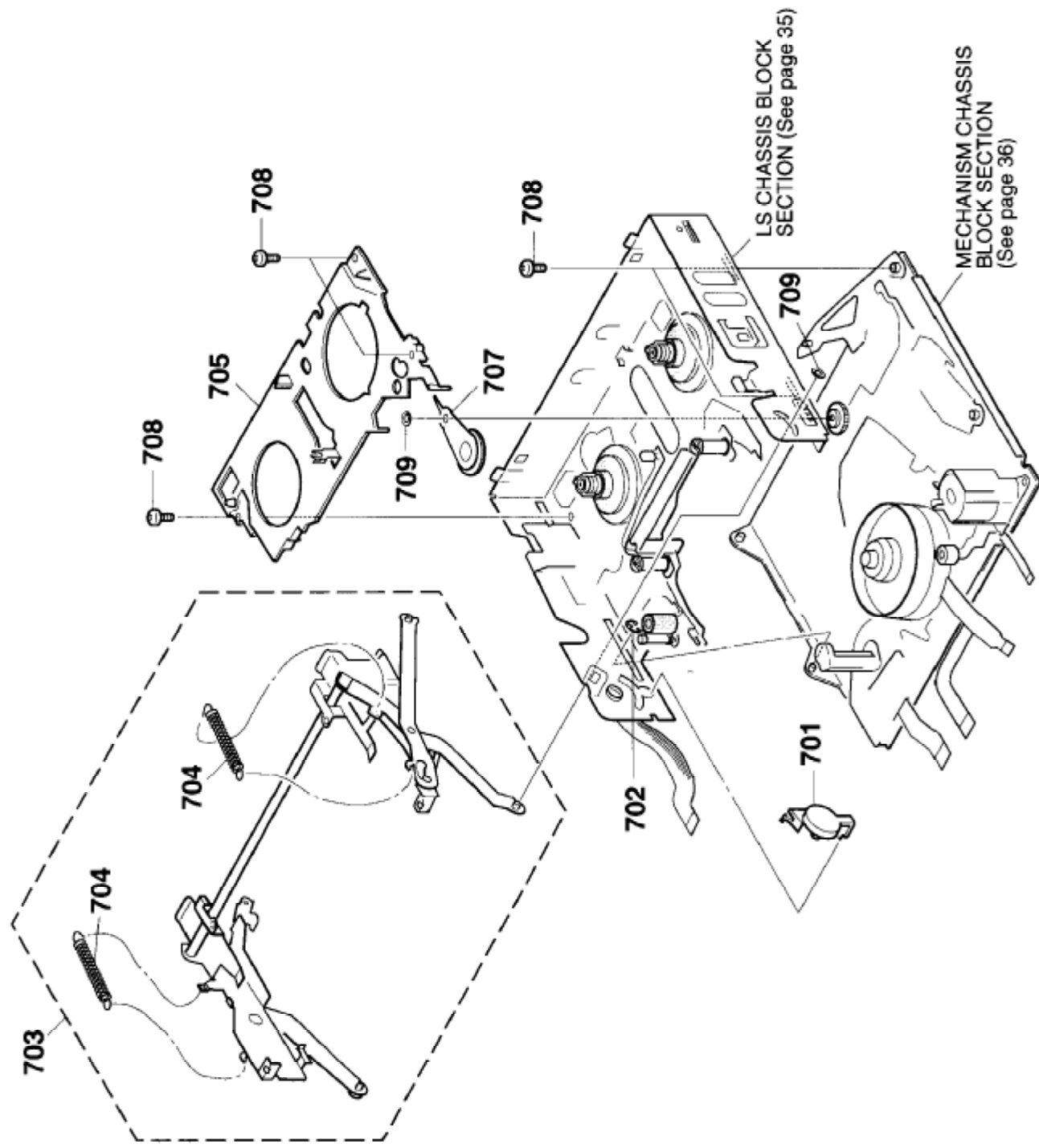
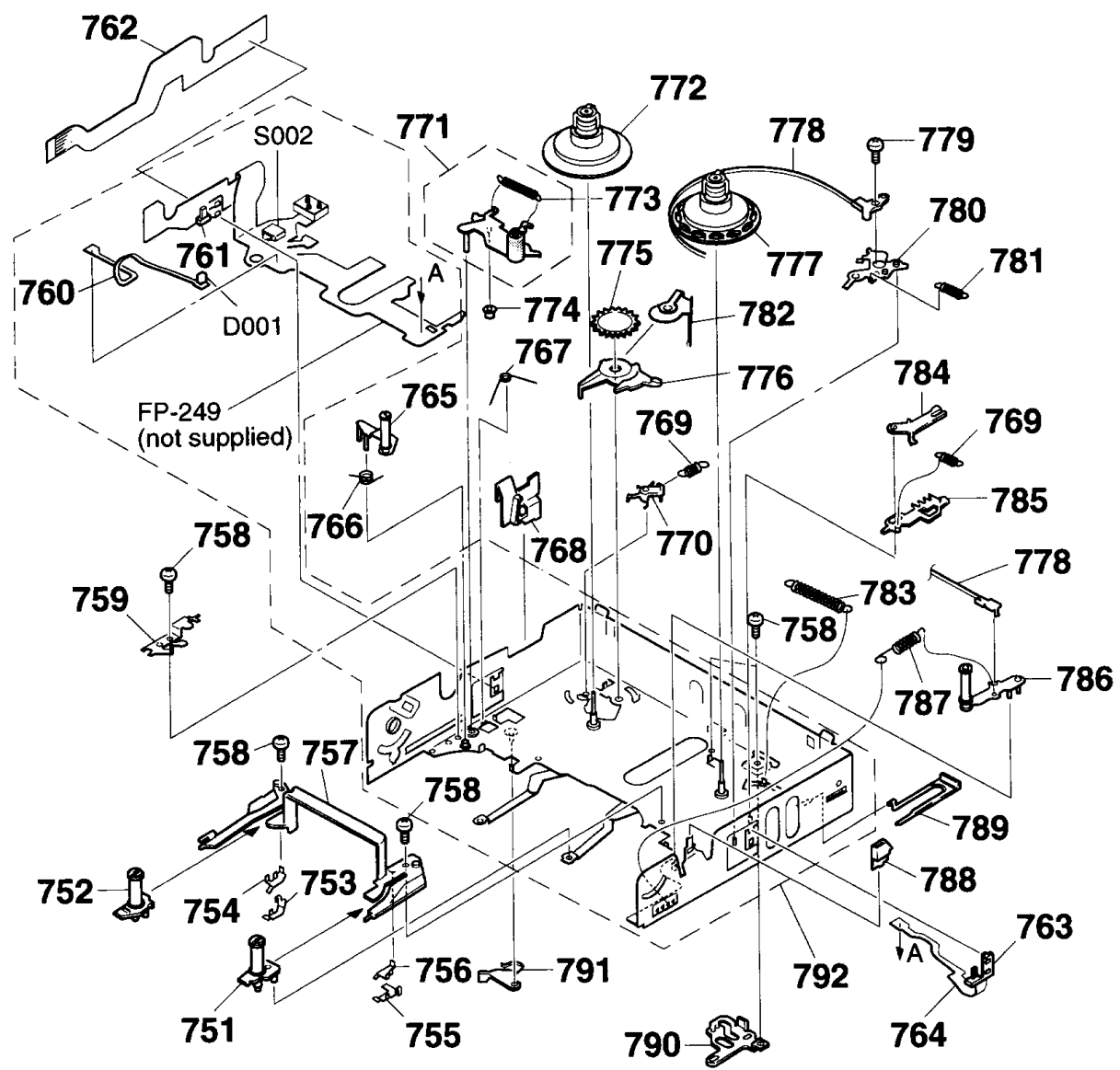


Fig. 35

5-1. Cassette Compartment Block Section



5-2. LS Chassis Block Section



5-3. Mechanism Chassis Block Section

